Rocket and Mortar Apparatus

Early days of Tynemouth Volunteer Life Brigade

South Shields Volunteer Life Brigade

Est 1866

An article from the Cornhill Magazine of 1872 and cuttings from the Shields Gazette of 1865

Contents

Rocket and Mortar Apparatus for saving Life from Shipwreck and Volunteer Life Brigades.

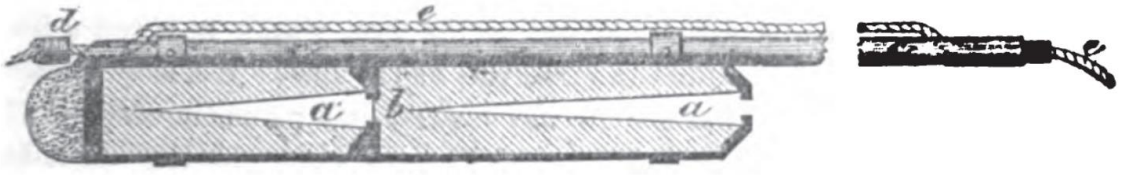
WRECKS often occur in positions inaccessible to a lifeboat, as on a rocky beach, or at a great distance from lifeboat stations ; and it has been found necessary to institute a supplementary service for such emergencies. The rocket and mortar apparatus, with the improvements and developments which it has received within late years, both in the mechanism and in the manner of working it, is generally had recourse to in such cases, and has frequently done good service where a lifeboat would have been useless, or could not be had. As the subject is very little known, we shall endeavour to give a description of the apparatus, divested as far as possible of technicalities, and of the manner of working it, and some account of the organisation of the Volunteer Life Brigades and Companies which have contributed so much to its more extended and effective use, and of the kind of work which they are called on to per- form.

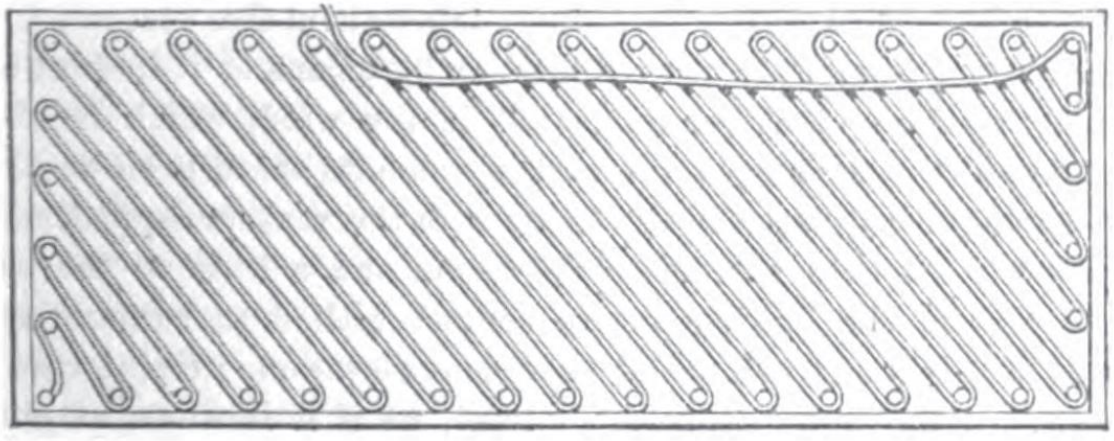
For this means of saving life from shipwrecks the country is mainly indebted to the humane exertions of the late Captain Manby, who, when stationed at Yarmouth in the early part of this century, devoted much time and labour to the invention and perfecting of the apparatus which, with some improvements in details, is, as now used, substantially the same as he left it. The most important change is the substitution of Boxer's rocket for the mortar and shell used by Manby, which were liable to many objections. Dennet's "twin" rockets, also formerly in use, have been withdrawn since 1865. They were very uncertain in their flight, sometimes failed to ignite, frequently broke the lines, and were, besides, double the cost of Boxer's rocket. We shall, therefore, confine our attention to the Boxer rocket, and shall begin our description of the apparatus with it, taking the rest in the same order as they come into use at a wreck, and thus combine the description and working of the several parts. It may be stated in the outset that the important stations are provided with a well-appointed cart suitable for conveying the entire apparatus, with which it is kept equipped and ready when any occasion for its use is likely to arise. The cart is fitted with drag-ropes, by which it may be dragged by men, horses being employed for long distances. Upon a wreck occurring the cart is at once hurried to the nearest accessible point, and the work of rescuing the crew is begun.

All rockets from which a considerable velocity is required must have a hollow cone in the centre of the head large enough to expose a sufficient surface of the inflammable composition to generate the quantity of gas necessary to give the desired propulsion. The peculiarity of the Boxer Life-saving Rocket is that this cone is not continuous throughout the head, which consists, in fact, of two rocket bodies placed one in prolongation of the other. The cavities as shown are separated by a solid portion of composition (b), and when this is burnt through, the effect of the front cavity is brought into action, and imparts a fresh impulse to the

rocket. The object of this arrangement is to obtain an even velocity throughout the flight, to give greater length of burning and flight without any sudden violence or developing too high a velocity at any point, which might break the line attached to the rocket. The length of the 12·pound rocket is 24 inches, and securely fixed to one side of it is the rocket stick (c), 9t ft. long, and of uniform thickness throughout. The front of the stick, at the part where the flame issues from the rocket, is protected by a sheet of tinned iron, tacked over it for a length of 14 inches. Each end of the stick is hollowed, as shown in Fig. 1, to receive the rocket line, which is passed through, and lies along the back of the stick, two fathoms of it having been thoroughly wetted, to prevent as far as possible the chance of its· getting burnt. The end or the line is secured by a common overhand knot ; one brass washer and two of india·rubber (d) are placed between the knot and the stick, to reduce the effect of the sudden jerk which is given to the line when the rocket is fired. A second knot is made in the line near the hinder end or the stick, so that if the line should be burnt near the rocket the knot may catch the stick and maintain the connection. The rocket line is a thin rope, as light as is compatible with the necessary strength, and of sufficient length to allow of the greatest possible flight of the rocket and still leave one end with the party on shore.

Section of a Boxer Rocket





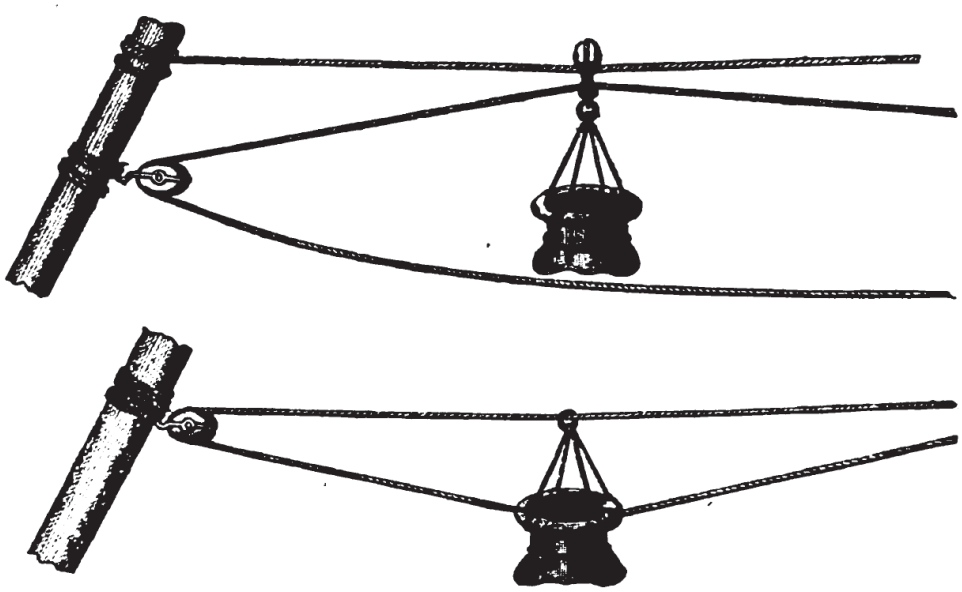
The line is faked on faking pins in a box, as shown the object being to have it arranged so that it may run off smoothly, and without any obstruction or ravelling, which would most likely cause it to snap, or in some way fail of effecting the desired communication. If the line has been brought to the scene of a wreck loose, or if it is necessary to use a line a second time, it must be faked on the ground with equal care. Before firing the rocket, the faking pins are lifted out of the box, which is tilted a little towards the wreck to facilitate the free run of the line.

We shall suppose that the line has been attached to the rocket, and properly disposed by the persons told off for that duty, and we now come to the most important part of the whole operation, the laying and firing of the rocket, on which the success of all efforts to effect a communication with a wreck in the first place depends. The rocket stand, or frame for firing the rocket from, consists of a rectangular trough, large enough to receive the head of the rocket, and, in prolongation of it, a narrower and shallower trough to receive the stick ; both are made of sheet iron, and the latter is strengthened by an iron rod underneath, and forms one of the legs of the tripod supporting the stand. From the bead of this the other two legs open latterly. On the right side of the rocket bed is fixed a brass quadrant plate, with plummet and line to indicate elevation. On the left side protected by a cover is a strong lock of simple construction, with a lever- trigger to explode by percussion a tube containing a detonating mixture, which communicates through an aperture in the side of the trough with the vent of the rocket. A line from the trigger is led down the left leg of the stand, passing through one sheave at the socket, and another near the foot. Or the rocket may be fired by means of a port-fire through an opening on the right side; but for this the rocket requires to be primed with a fuse which takes about five seconds to burn. It is best when possible to use the lock, as by means of it instant advantage may be taken of a favourable lull in the wind, which is of great importance at the starting of the rocket, when its speed is slowest. The rocket having been placed in the frame with the vent uncapped, and the line properly disposed abreast of the frame and a little to the leeward of it to prevent the line coming in contact with it in running out, the

frame is then laid and pointed at the proper elevation. Great care must be taken that the frame is perfectly level, as if it is down at one side the flight of the rocket will be inclined in that direction. This is the most frequent cause of bad shots when they occur. If firing across the wind, sufficient allowance must be made, so that the rocket and line may not be carried to leeward of the wreck. If they pass to windward the line is very likely to be carried on board by the wind or sea ; the object is to send the rocket if possible through the rigging, if standing, or close over the wreck, and this is most likely to be effected by the lowest elevation that will carry the required distance ; md, besides, with a low elevation the distance is more quickly traversed, and as there is less line out it is less liable to be deflected by the wind 35° to 38° of elevation gives the maximum range, which averages about 370 yards.

The rocket is not a missile calculated for accurate flight, particularly across a strong wind. The centre of gravity is in the head and is not coincident with the centre of figure, and the mechanical action of the wind on the· stick, constantly tends to tum the head up the wind, and as the propulsive power is continuous, and acts in whatever new direction is given to the rocket, this tendency would ultimately point the rocket straight into the wind. This serious cause of deflection is fortunately counteracted in the case of the Life-saving Rocket by the effect of the line, the pull of which from the starting-point, in spite of the bend caused in the centre by the wind, is sufficient to keep the axis of the rocket parallel to the original line of flight, and this steadying effect increases with the length of flight. Hence the rocket will not he pointed up the wind, but rocket and line together will be carried down the wind a certain distance, which may be allowed for. Great care is always taken with the first shot, both because it is in all cases desirable to effect a communication as quickly as possible, and because the chance of doing so is much greater when the line is dry, light, and carefully faked, than after it has become wet and dirty from being previously used. The man who pulls the trigger stands to windward and passes the trigger line under his foot so that the direction of the pull may be down the leg of the stand and not tend to disturb it. Should the line not fall within reach of the shipwrecked crew, another rocket is immediately laid and fired, the line of the former one being in the meantime hauled in for use if required. If happily the line has been seized by the crew, they make certain preconcerted signals, with flags during the day, and with lights at night- that is, if they are acquainted with them, which is rarely the case. It has been found that five out of every six crews who have bad to depend on the rocket apparatus for their last chance of life, have been ignorant of the method of using it, and lamentable mistakes have, in consequence, sometimes been made. It would be highly desirable that; every ship should be compelled to exhibit in some conspicuous place short printed directions for the use of the apparatus, or even to carry a small model of.it, which might be explained to the crew.

Suppose the signal made, we are now brought to the next part of the apparatus-a "whip" of manila line of about one-and-a-half inch rove through a single "tailed block." The tailed block is an ordinary block and pulley with a tail or free end of rope attached to it about two fathoms in length, by which it may be made fast to the mast or some other part of the wreck. A whip is the name given to a rope rove or led over the pulley or wheel of such a block, and in this ease the two ends are spliced so as to form an endless rope. The inshore end of the rocket line is now bent or fastened round both parts of the whip about two fathoms from the tailed block, and the signal to haul off is given to the crew by a man told off for that duty. While the crew are hauling off the whip, which is the heaviest, almost the only part of the work which falls to them, those on shore are careful to pay out the lines clear of kinks, and no faster than they can take them in, to avoid as much as possible all risk of their fouling each other, or rocks, wreckage, or any obstructions in the way. When the crew have got the tailed block on board they find attached to it a tally board with these directions in English on one side, and French on the other. “Make the tail of the block fast to the lower mast well up. If masts are gone, then to the best place you can find. Cast off rocket line, see that the rope in the block runs free, and show signal to the shore." After this, all the work is done by the party on shore, who have now a communication with the wreck by means of an endless rope running over a pulley attached to the ship, by which they may send anything off or bring anything ashore. The signal having been received, the hawser, a three- inch manilla rope, is attached about two or three fathoms from its end to one return of the whip, and is sent off to the wreck by hauling on the other. Along with the hawser the crew receive another tally board directing them to "Make this hawser fast about two feet about two feet above the tail block. See all clear and that the rope in the block runs free, and show signal to the shore." Great care is necessary to prevent the hawser and whip line from twisting round each other, and with this view they are laid in contrary directions, the hawser being a right-handed, and the whip a left-handed rope ; it is also necessary to keep both returns of the whip well in hand and well apart.



The hawser having been signalled fast, it is now time to send off the breeches buoy. This is a sling life-buoy with petticoat breeches, as shown to secure persons insensible or helpless from falling out of it, or being washed out when it is necessary to drag them through the surf. Attached to the sling is .a traveller or inverted block with a brass sheave or wheel through which the end of the hawser has been led before being sent off. One return of the whip is made fast to the traveller, and by hauling on the other return the breeches buoy is sent oft' to the wreck, and at the same time the hawser is being 1et up, that is hauled taut. Where the nature of the shore requires, and other conditions admit, a triangle composed of three hollow iron cylinders is erected, from which is suspended a swivel snatch block, that is a block opening at one side so as to admit of the hawser being at once let in without the delay of threading it through from the end. By this time the men told off for that duty will have buried an anchor with one fluke in the earth, sand, or shingle, or if the shore is too soft for an anchor to hold, a stout plank five or six feet in length with a fathom of chain of sufficient strength fastened round it amidships, is buried three or four feet underground, the end of the chain with a ring attached being brought to the surface. To this or to the anchor the hawser may be set up by means of a double block tackle purchase, a double system of pulleys. The object in making taut the hawser and elevating it by the triangle is, if possible, to keep the persons coming ashore clear of the waves, wreckage, and rocks. As soon as the breeches buoy reaches the wreck the crew, even two or three at a time, may get into it and are brought ashore by their rescuers hauling on the return of the whip attached to the buoy. The buoy is again sent off and the process repeated until all are landed, a consummation always greeted with hearty cheers. Great care is necessary in sending off the breeches buoy empty, as in a strong wind it is sometimes blown right round over the top of the hawser, of course fouling the whip with it: the best way to prevent such a mishap is to run it out as rapidly as possible and allow no slack-line out. When the work is completed it is desirable to bring in the hawser to prevent its getting chafed or otherwise damaged, and that it may be ready for use if again required. This is effected by means of a cutter so constructed that it can be run out smoothly on the hawser to the wreck, when a smart pull landwards brings two knife blades into action which sever the hawser.

This is the full working of the apparatus, which is always carried out when circumstances admit, but various modifications are frequently necessary. If the motion of the wreck is very violent, the hawser is not set up, as with the tackle used it would not be possible to follow readily enough the oscillations of the wreck, and the hawser would certainly be snapped. In such a ease the hawser is manned by a sufficient number of hands, who by hauling and letting go humour the swinging of the wreck, and still keep the hawser sufficiently taut. Again on a very fiat, soft beach, when the triangle could not be erected, nothing would be gained by using the hawser, and sometimes the immediate break-up of a wreck is so imminent that not a moment is to be lost. In these cases the traveller is removed from the sling of the breeches buoy and one end of the whip is led through the thimble or ring attached to

the slings, and the ends are then made fast to the opposite sides of the buoy which thus both travels on the whip and is hauled by it. Sometimes the proceedings are more summary than any described. When a wreck is near precipitous rocks, or a pier, the communication is effected by throwing a hand- line to which is attached a hearing-stick, a loaded stick to carry the line farther; the whip or hawser is sent off as may be judged best, and the crew scramble ashore, often not a moment too soon to escape from the jaws of death.

In all eases when the apparatus is used, two men are equipped in life-belts with life-lines attached, whose duty it is to go into the surf to rescue any that may have been washed overboard from the wreck.

The apparatus is under the charge of the Coast-guard or Customs at the different stations, and the chief officer present has the power to compel owners of horses to lend them for use in eases of shipwreck, and to order all persons present to assist in any way he may require. But even from the difficulties that have been pointed out as occurring in the use of the apparatus, it may be inferred that unskilled assistance is of little service under the circumstances usually attending a wreck, especially at night. This would be still more apparent from a glance at the very minute and precise drill, very much resembling gun drill, each man having hill special duty assigned him, which it is considered necessary to practise in order to secure the working of the apparatus wish rapidity and success. The coast-guar4 are seldom present in sufficient numbers to act by them- selves, and sometimes wrecks occur simultaneously, to more than one of which it would be impossible for them to attend. The need of skilled and organised assistance was never more painfully apparent than at the wreck at the mouth of the Tyne of the Stanley, passenger steamship between Aberdeen and Newcastle, in November, 1864, by which twenty-six persons perished after many hours of terrible agony. The fearful scenes of that night determined some gentlemen who had been helpless witnesses of them to take care that there, at least, for the future trained and efficient help should never be wanting. The result of the movement then started was the Tynemouth Volunteer Life Brigade, which has served as the pattern for nearly 150 brigades and companies at different places along our coasts, and is still regarded as the chief, as well as parent of all existing brigades. All new apparatus or improvements are sent to it for trial and report, and all representatives of foreign Governments desirous of becoming acquainted with the working of the apparatus are referred to it.

As the craft of all descriptions annually entering the Tyne far exceed in number, although not in tonnage, those entering any other port in the kingdom, and it is the only port on the north-east coast to which ships can run under stress of weather, although yet but imperfectly fitted to serve as a harbour of refuge, there will always be need for a strong and well-drilled brigade at Tynemouth. The massive piers on each side of the river, which have been building since 1858, and are still far from com- pie, and the dredging operations of the River Commissioner&, have greatly improved the entrance to the harbour, as well as the whole course of the river under

their jurisdiction. Just before the commencement of the piers men have been known to wade across the river at the bar where there is now never leas than twenty feet of water. The piers converge, but are still about three-quarters of a mile apart, and with such a depth of water the waves, particularly with an east or south-east wind, roll in in unbroken volume and force, and the greatest danger now lies inside the bar or what used to be the bar. A ship, once fairly within the piers and standing up the river, has on the north side the Battery Rocks lying around the foot of a lofty promontory overlooking the mouth of the river on which stands the old Spanish Battery, and then, continuous with these, but trending up the river, those " infames scopulos " the "Black :Middens," the scene of ever recurring wrecks, whose low-lying undefined ugliness is well described by the name they bear; and then farther up and more advanced into the channel, and somewhat more elevated, the Prior's Rock, bearing a beacon, which once passed, danger may be considered over. All those rocks are covered at high water up to the base of the cliffs over- hanging them, and are bare at low, and in all intermediate states of the tide present a chaos of contending white and black-white breakers and naked black rocks-as ugly a sight as a poor mariner could have on his lee when, with the force of wind and waves, is combined, as is frequently the ease, the insidious set of a strong ebb-tide intensified by a fresh in the river common during storms. On the south-side is the Herd Sand within the angle formed by the South Pier and the channel, which, though not so swiftly destructive to ships nor so fatal to life as the couchant rocks on the north, seldom surrenders a ship that has been once driven upon its shoals. Between these dangers, on the right hand and on the left, there is a deep and safe channel when it can be kept; but if a ship is at all disabled, if at the last moment her steering gear is broken or thrown out of order by one of the huge waves which still rise and break on the bar, her position is one of imminent peril. The intention is, when the piers have been carried to their full extent and the entrance has been sufficiently contracted, to widen and deepen the basin· within by partially removing the rocks and by dredging, so that the waves entering may spread them selves and speedily die away, and then any ship, whatever her condition, having once got within the pier-heads, will at the worst be within reach of rescue by steam-tugs. The Tyne will then be a harbour of refuge much needed on that coast, to which all ships in distress may run, as indeed they do at present; but to effect all that may be accomplished with this view, much yet remains to be done entailing an expenditure which can hardly be met from local resources, but to which no public contribution has yet been made. The River Commissioners have already upended upwards of £2,000,000 of borrowed money in addition to their annual expenditure from revenue on the piers and river improvement and without State aid it is to be feared that they will be compelled to carry their pier works no farther than the trade requirements of the port demand, leaving the harbour to some extent a snare rather than a refuge to vessels that can no longer withstand the fury of the storm in the open sea.

The Tynemouth Volunteer Life Brigade consists of nearly 150 members, who are formed into four divisions, each under the command of a captain, elected annually by the efficient members. The constitution and management of the Brigade will be best understood from: the following copy of the rules which have been adopted by the Board of Trade for the regulation of all brigades and companies enrolled for the same purpose.

The Brigade is composed of all classes of society resident in the neighbourhood, and includes clergymen, doctors, men of business, and those in their employ, and a good proportion of boatmen, fishermen, and men who have formerly been sailors. The dress worn at drill is a dark blue guernsey with a wide light-coloured waist-belt, having the initials of the Brigade embroidered on it. The belt is always worn at wrecks, and is necessary, particularly at night, to distinguish members from other persons present, who are sometimes apt to force themselves where they can only be in the way. There is a regular practice drill once a month, but often more frequently when it is desired to test some proposed improvement in the apparatus, or to exhibit its use to the representatives of foreign States, and others who may wish to adopt it. From the interest shown in the subject, both by America and several European Governments, we may hope that our sailors will soon find the same means provided for their rescue from danger on foreign shores as are now so common along our own coasts. The usual place of practice is from the north side of the promontory already referred to, which is separated by a small bay, called Priors Haven, from the North Pier and the loftier Castle Rocks, on which stand Tynemouth Castle and Fort, the Lighthouse, and the ruins of the ancient Priory. The distance from the firing point to the pier is about 150 yards, over which persons are taken to and fro as if from a wreck. The intervening space is occupied by the sea and rocks, either wholly or partially covered with water, and therefore presenting all the difficulties usually met with in eases of wreck. A proportion of these drills take place at night, and it is always considered fortunate when the weather proves stormy, that the conditions may as nearly as possible resemble those of real work. In order that a member may be reckoned effective, he must attend at least five drills in the year. The time from firing the rocket to landing the first man varies from six to twenty minutes; but as instruction is generally combined with the working of the apparatus, it is seldom that mere speed is aimed at. Their shortest performance in actual work when all the apparatus has been used was in the ease of the wreck of the Light of the Harem, when a crew of five men were landed in twenty-four minutes, the four last being brought ashore in ten minutes, the delay with the first having arisen from their ignorance of the use of the apparatus.

The Watch House of the Brigade stands within an enclosure beside the Spanish Battery, close to the edge of the cliff, overlooking the month of the river, and commanding a perfect view of the offing. Away to the south is seen a lofty wall of rock, starting at no great distance from the South Pier, in the Trow Rocks, and continued by the fantastically caverned and isolated rocks of Marsden to the

Souter, the furthest point visible, and for miles beyond, with hardly a break on to the mouth of the Wear, against which the sea in stormy weather beats with ceaseless fury. The view of the coast line to the north, almost equally rocky and precipitous, is cut off by the Castle Rocks. The Watch House is a wooden structure about forty feet in length, divided into two apartments the larger for general use, and the smaller to receive the rescued crews, where they are supplied with dry clothing, food, and restoratives, and receive every attention which their condition may require. The walls are hung round with rules, regulations, and notices, a few charts, and display some very suggestive trophies, the name boards of vessels whose crews have been saved by the Brigade. Around two sides of the house runs a deep verandah, which on the river-side it was found necessary to close up, and fit with sliding windows and panels, as without some such protection it was most difficult, particularly at night, in such hurricanes of wind, rain and snow as often occur, to keep up a careful and constant out-look. At night especially, the watch must be incessant, as ships, or rather lights, for that is all that is seen or reported, start almost instantaneously from the darkness.

Suave, mari magno turbantibus aequora ventis,

E terra magnum alterius spectare laborem-

and the Tynemouth Brigade Watch House presents opportunities and facilities for this enjoyment such as Lucretius could hardly have contemplated, but the motive which brings the watchers there night after night, is very different from the temper which finds satisfaction in witnessing sufferings from which the sufferer is exempt-if such can ever be accepted as a true account of human feeling. People would not crowd to see their fellow-men hopelessly crushed and overwhelmed ; the fascination of such scenes lies in the strife the contest of skill and courage against brute force, and in the hope of victory ; and the cheers which greet the landing of one man after another show that the spectators have not been thinking of their own security, but have been sharing in their hearts the feelings of the sufferers. From this position arc witnessed scenes of terrible grandeur and power, and sometimes of wild and indescribable beauty, which, although they may be surpassed on many an unfrequented coast, are rarely to be seen associated with the human interest which possesses the spectator who sees, or knows not in what moment he may see, his fellow-men battling for life against force as irresistible as pitiless.

A storm, like all great realities, is grandest when best seen; it has nothing to gain from indistinctness of view. Night, if it increases the danger, conceals what the imagination can hardly reproduce and cannot surpass. The low driving scud overhead is swept along ceaselessly in formless murkiness; huge masses of foam, churned up in the recesses of the rocks, are tom up by the fierce blasts of the wind and whirled wildly through the air, smiting against the face of the cliffs and the green banks above, which are flecked with white as from the remains of a snow-storm. The black rocky coast line to the south, until it is lost in a sustained confusion of

surging spray and cloud, seems dwarfed under the snow- white columns that are hurled up from its base, the summits of which, struck by the level wind above, stream far inland, a ragged curtain of spray, while the heavier masses thunder down again in a thousand cataracts. The nearer piers, with their lofty staging, are buried under the waves, which leap a hundred feet above them as in sudden surprise and wrath at their premature arrest. Out at sea, as far as the eye can penetrate, all is a scene of wild and tumultuous commotion, multitudinous as the waving tops of forest-trees, but incomparably more violent-no succession or common motion can be observed-wave leaps above wave against the lowering clouds, to fall back burst and baffled, until, nearing the shore, they seem to marshal themselves for the assault, and rushing on in swift succeeding lines, rear up their turbid might, bounding, quivering, coiling, until they precipitate themselves into the gulf which foreruns them, or are hurled unbroken against the rocks. Sometimes, towards the break of such a storm, the sun darts out for a moment, and all the countless features of the scene, before obscured in gloom · and indistinctness, stand out sharp and clear as by a supernatural revelation; or, at night, when the lower rack has been swept away, and the upper clouds have again piled themselves into masses, the full moon pours down between them through the storm-washed air a flood of stain- less light, which transforms all the terror and grandeur into wild beauty and aerial grace. The rocks and piers are masked in shifting wreaths of snow-white cloud, the crash and roar of the breakers is carried off by the wind, and the waves, now all silver-white, appear to gambol and chase each other in harmless play, seemingly incapable of hurt to ship or life ; and on the extreme verge of the horizon, beyond the nearer light and farther darkness bounding it, there is a streak of purest, calmest brightness, which seems to speak of a region beyond all of perfect light and peace. But it is very rarely that a smiling heaven thus transfigures the wrathful face of the deep, and most commonly a storm dies out in the sullen gloom which has been one of the most striking and oppressive features of its previous course.

In such weather the Brigade keep watch in sufficient force day and night in the Watch House, and members who may spend part of the night in their own houses in the village are constantly on the alert for the signals. When the watch has to be maintained over a week or ten days, as is sometimes the ease, the duty, large as the Brigade is, becomes severe, and sometimes for such a period the more responsible members, and those who also form the lifeboat crews, which are not so numerous, never sleep out of their clothes. There are two lifeboats on the station, one in Prior's Haven, and the other in the river ; but from the rocky nature of the shore it is seldom they could be used on the north side, and more seldom they could be launched. The lifeboats of North and South Shields, the latter of which claims the invention and first use of the lifeboat are generally more available, and being kept constantly afloat in the harbour in stormy weather, are readily towed by tugs wherever their services can be of any use. At night, the time of greatest danger, the muster is always good, as many members, otherwise engaged during

the day, are then able to attend. If many ships are entering the river, they are kept on the alert the whole night, but sometimes, when a storm has lasted two or three days, several hours may pass without a single ship appearing. On such· occasions the earlier part of the night is spent in chatting, playing draughts and dominoes, listening to tales of wrecks by those who have suffered or witnessed them, or to "narrative age," recalling the time when as many as forty wrecks have been seen on the rocks together-for in the course of time every rock about these shores, and every foot of sand, have charged themselves as heavily with the tragedy of unrecorded human suffering as the sods of any battlefield the most renowned.

About eleven o'clock there is a great making of coffee, which is served out with bread and cheese, and again between three and four ; and no stronger stimulant is ever allowed except in cases of great exhaustion. After midnight the games have all been discontinued, the talk has gradually failed, the untended lamps throw gloomy shadows on the unceiled roof, and project pillars of blackness against the walls, men slip quietly away and extend themselves on the benches which run round the sides of the room, or let their heads droop on their folded arms on the tables. The wakeful seek what pastime or entertainment they can find in the stores of a small but exceedingly miscellaneous library, the gift of friends, and inside all is stillness, amidst the roar of the waves and the raving of the wind outside. If the watch report a "light off the bar," all is instant commotion, coats are hastily buttoned up, sou'westers firmly secured, and all turn out to watch one more duel between man and his handiwork on one side, and all the powers of storm, darkness, and mischance on the other. At first nothing is to be seen but a light, plunging, staggering, and reeling in the darkness, now visible, now suddenly quenched, now seeming to overhang the shore, and then sinking into the far distance, and always, except to experienced eyes, appearing to be in a fatally wrong course. Soon, unless the night is very dark, the dusky out- line of the ship becomes visible against the white water which borders on both sides that streak of grey within which she strives to keep, and if she weathers these last dangers, she is watched on her way up among the harbour lights with not a little of that feeling of relief and thankfulness which all know must fill her crew at the sudden change from extreme peril to absolute security. But if the run for the harbour is not to have this happy issue and it becomes evident that the ship must strike on one side or the other, the signal-guns are fired, two for the north and three for the south side, followed by a sky-rocket. The reports strike sharp and sudden against the village ; the rolling echoes, which at other times pro- long themselves among the rocks, are swept away by the swift wind, and only the hard, startling, urgent shock is heard ; along the streets there is a sudden banging of doors and the sound of hurried feet on the pavements, but before these can reach the station, the cart, always ready with a full equipment of the apparatus, is on its way to the wreck, the gear is carried where the cart cannot go, and the work of rescue proceeds with as much promptitude and regularity as an ordinary drill.

Much has been said about the uncertainty of the flight of the rocket, but the Tynemouth Brigade have never failed to get a line speedily on board, even up to a distance of 350 yards. When failure has occurred, it has been owing to the crew being unacquainted with the use of the apparatus. In the case of the wreck of the Jabez, two years ago, the only man who reached the line lashed himself with it to the stump of the mast, and could not be made to understand that he ought to haul it in, and in consequence he and three others perished close to shore, only two who were washed overboard being saved. The two Brigades at the month of the Tyne, for there is a similar one-the South Shields Brigade on the south side, have together saved about 100 lives during the eight years they have been in existence.

The dangers and hardships to which men expose themselves in working the rocket apparatus are not equal to those incurred by the crews of lifeboats, but still they are far from inconsiderable, and in some cases have proved fatal. Mr. Byrne, late chief officer of the Coast Guard on the Tynemouth station, never recovered from the effects of the long exposure on the dreadful night of the wreck of the Stanley, and the injuries be received in his gallant efforts to rescue her passengers and crew. More recently, :Mr. Albert Drayton died from the effects of over-exertion and exposure in saving life at the wreck of the Royal Adelaide. But the experience of a single night of the Tynemouth Brigade will give an idea of the dangers which the volunteers are called on to face in the discharge of the duties which they have undertaken. The 17th of December last was remarkable for one of the severest S.E. gales which have visited this coast for some years. Many ships had made the harbour in safety during the day. No casualties had occurred, except that one barque had struck on the Black Middens, but got off again with disabled steering gear to become a total wreck on the Herd Sand, her crew being taken off by one of the Shields lifeboats. At night the wind continued with unabated fury, but had gone round almost to the east, and was thus more favourable for taking the harbour. About ten o'clock a light was seen off the head of the north pier in a most dangerous position. If she had come from the south, and overshot the fair-way, her fate was certain, she could not possibly haul off; if she had come over-sea, or from the north, which was hardly possible, and bad way enough on her, she might still weather the point. To avoid false alarms, the guns are never fired except when a wreck appears inevitable, but the Brigade, knowing from former experience that a wreck on the piers means sudden and complete destruction, had already, when the guns fired, got in motion along the rails on the low level of the pier a waggon containing a complete set of the apparatus kept there to meet such sudden emergencies. The ship proved to be the barque Consul of South Shields. She struck first on the rubble, and was then hurled broadside full against the staging of the pier, the outer tier of which she smashed down for many feet, undoing at one crash the painful work of favourable opportunities extending over many months. Huge piles, nearly three feet in diameter, were snapt like reeds, and next morning the little Haven was found choked with a wreckage of gigantic timbers,

mingled with the punier fragments of the wreck, hurled up in a confusion that was half terrible and half grotesque. Finding that the wreck was alongside the pier, to save time the hawser and handline were taken out of the waggon and hurried along, the entire distance being about 600 yards. On reaching the wreck, the Brigade found that she bad rebounded from the pier, and was lying on the rubble, about forty feat off, her mainmast and mizzenmast gone, which, with the after part of the hull, had been smashed by the fall of the pier timbers, killing instantaneously, as was afterwards learnt, the captain and four of the crew. The mate, who, with four others, escaped the fall of the rigging, made for the fore-topsail yard, which almost immediately fell overboard, carrying him with it. There were thus only four left alive after the first moment of collision, and of the wreck little more could be seen than the foredeck with foremast and bowsprit, which, from the total submersion of the after part of the wreck, stood tolerably high.

It was evidently a case for the promptest measures, and accordingly a handline was thrown on board, fortunately with success at the first attempt, and the survivors, after losing some time, as is frequently the ease, in endeavouring to send a warp ashore, hauled off the line and got the hawser on board, which they quickly made fast, and three of them in rapid succession, with the sailor-like cleverness which had been reckoned on, came ashore banging on to the hawser with hands and feet. The fourth, a young Dutchman, did not appear to have the same confidence in his own powers, for he stripped to shirt and drawers, and now hesitated to make the attempt. There was enough to cause the stoutest heart to pause, and few would have ran the hazard but to escape certain death. The waves were running almost parallel to the pier and dividing on the head of it, and gathering up against it, tore through between it and the wreck like a furious roaring cataract, dashing not only a heavy spray high over the hawser, but hurling against it great surging masses of water, whose force the most desperate hold seemed but ill able to withstand. The loud crashing of the wreck, as some of the foremast rigging fell, at length determined him to start, and be had got about a third of the way when, on the clearing away of a heavy wave, he was seen to have lost hold with his legs and to be hanging on by the arms only. As one wave after another passed he could be seen, for there was a full moon buried among the rack overhead, struggling hopelessly, and, indeed, aimlessly, for what appeared an incredibly long time, but was, perhaps, not more than two minutes altogether. Some members of the Brigade wished to go off to him, but wisely, as it proved, they were forbidden. It was determined to send oft' the breeches buoy, but as it is not allowed to use a snatch block for the traveller, although on such an emergency as this it might be useful, it had to be run on from the end of the hawser. This was done, and it only remained to attach a line to bring it back. One of the men s standing near the edge of the pier with his hand on the hawser in front of the buoy to prevent it running off before all was- ready, when the Brigade was made aware that they themselves were within the wash of the sea. They had taken their position close to the head of the pier under the staging ; many of the massive piles in

front of them, broken at the base, but still attached to the scaffolding at the top, rocked and swung with every wave, making the whole structure, with its ponderous cranes and machinery overhead, groan and crack in away that might have raised doubts, if there had been time for doubt, of its stability. Chains rattled and clanked, and the wind roared among the dark timbers, lashing over all torrents of hissing spray, when in one of those accesses of violence which seem to be periodical in storms, a heavy sea swept along the pier, knocking down most of the men on the hawser, which, bearing against the weather-side of one of the piles, fortunately enabled them to hold their ground ; but the man in front of the breeches buoy was hurled into the sea, and many others narrowly escaped the same fate. With the same sea the foremast of the wreck went. The man overboard had on a cork jacket, and rose to the surface immediately; three life-buoys with lines were thrown to him, one of which he had seized, and had given the word to haul up, when he was dashed away by the next wave among the piles and unfinished masonry, no doubt to instant death, with a force to which all human power of resistance was piteously unequal. The man on the hawser still clung on; the breeches buoy, released from the hold of the poor fellow overboard, and struck by the same wave, had been shot out to him, but without a line attached. He had got bold of it, and had got into it, and bad grasped a line thrown over him, and in a few seconds he too would have been safe on shore, when, as if collecting all its fury for a final assault, a tremendous sea came hurtling and roaring out of the darkness, tore away the entire remnant of the wreck, wrenched the hawser out of the men's bands, and almost dragged them over the brink. When the mass of water rolled past and the spray fell, not a vestige of the wreck was to be seen, and the Consul, which, after battling three days with the storm at sea, had but a quarter of an hour before bean within a cable's length of safety, was now shattered to innumerable fragments. The Brigade immediately retreated from their dangerous position, and retiring half way along the pier, many of them clambered down to the rocks, where, as it was now half ebb, they first began to show above water, and whenever a fragment of wreck appeared bearing any resemblance to a man, a dash was made into the surf. Some fancied they could hear cries, but it was vain to hope that any living thing could have passed the rooks between them and the wreck. The body of the Dutch sailor, whose desperate struggle was so fearfully terminated, was soon found, but life was gone beyond recall, and very soon the Brigade was withdrawn from useless risk, and, many of them wet to the neck, resumed their watch for the night. By this time the three rescued men were seated by the fire warmly clad and dry, all but their hair, which, still full of water, showed how recent their peril had been, exhibiting, as sailors always do under such circumstances, the most unassuming modesty and a touching humility, which seems to be divided between thankfulness and wonder that they can be the object of so much attention.

All this time no one could tell who the Brigade man was who had been swept off the pier. Men are so muffled up at this work that it is bard to recognise them in the dark, and the most painful suspense prevailed until two o'clock the next

morning, when the fears of many were resolved, but to the certain sorrow of one bereaved family. The body was found on the Battery Rocks, and proved to be that of Robert Arkley, one of the most exemplary and respected members of the Brigade. Although Arkley's daily work was at the Northumberland Docks, three miles up the river, and he lived about a mile and a half from the Station, yet no one was more regular in his attendance. Often, when he had bat just returned to his home after a long day's work, if the guns were fired he rushed off immediately, leaving his evening meal untasted. His wife had a strong and distressing presentiment that some evil would befall him in the Brigade service, and he always encountered from her the strongest opposition to his going out, particularly at night, and he has been known to make his escape by the window when she had secured the doors in the hope of keeping him in. And thus he continued, fearless himself and devoted to the duty he had undertaken, until his wife's worst fears were terribly verified.

THE TYNEMOUTH VOLUNTEER LIFE BRIGADE.

22nd of March 1865

There was a very large master of the members of this corps at the Spanish Battery at Tynemouth, yesterday afternoon on the occasion of their being inspected by Captain Robertson, R.N., Surveyor-General to the Marine Department of the Board of Trade. The number present being about a hundred, and amongst them we observed Ald, J. F. Spence, Mr A. S. Stevenson, Mr Archd. Stevenson, Rev. Mr Hicks, Rev. Mr Anstiss, &c. Besides Capt. Robertson, Capt. East, Inspector of the Coastguards in the Northern Division, was present; and the weather being fine—though it afterwards took a disagreeable and sudden turn—there was large assemblage of the elite of Tynemouth to witness the use the rocket apparatus. The proceedings were began with the firing of a mortar, followed by the setting off of a rocket, at the gate of the Battery, as signals for the members of the brigade to muster. Immediately there was a rush and a bustle inside the Battery, and as the volunteers ran off with the lines and hawser and other portions of the rocket apparatus, people naturally felt a little of the excitement that might be expected to be caused by the cry "A ship ashore!" The apparatus was taken to the edge of the height overlooking the haven, at a part almost above the jetty; and thence, after the lapse of a few minutes, a nine-pound rocket was fired over to the pier, where there were some men ready to receive the lines. The line was caught and the hawser, in the course of a little time, pulled along and fastened; and then a “cradle," consisting of a lifebuoy, with a piece of canvas shaped like the upper half a pair of trousers, suspended from it, was put on; and a man was placed in it, with his limbs dangling underneath, and sent safely over to the pier. The "cradle" passed and repassed several times after this, two men being taken nearly every time. The operation was exceedingly successful, and excited great interest on the part of the spectators. A 6-pound rocket was afterwards fired for the purpose of trying how far it could carry. We understand that Capt. Robertson expressed high satisfaction at the conduct and appearance of the brigade. A meeting of the committee of the corps was held at the Town Hall, North Shields, last night, the Rev. H. S. Hicks presiding. Captain East was present, and his rules were read over and discussed. It was afterwards resolved that a house should be erected by public subscription, on the eminence near to the Black Midden Rocks, in which some members of the brigade could keep look out on stormy nights. A supply of clothing will also be kept in the house for the use of any persons who may be saved from drowning, and suitable refreshments will be in store for those who may be rescued. The following are the names of the subcommittee which was appointed to collect subscriptions for the purpose of building the house:—Ald. Joseph Spence, Mr Stanley Kewney, Mr T. Taylor, Mr M. J, Detchon, and Mr J. Morrison.

8 June 1865

We are requested to remind the members of the Volunteer Life Brigade that the rocket drill at Marsden takes place on Saturday evening next. The members to meet at the Penny Ferry, New Quay, and cross at five o clock. It is hoped that there will a good muster.

12 June 1865

The Tynemouth Volunteer Life Brigade This admirable corps had a practising at Marsden on Saturday afternoon. A considerable number of the members crossed from North Shields by the five o'clock ferry, and passed through South Shields and on to Marsden in marching order. There were 64 present at the practising, including the Messrs Spence of North Shields; and a good many ladies and gentlemen from Shields, attracted by the fineness of the afternoon, enjoyed themselves as spectators. Some disappointment was felt that Captain Ed. F. Kirby, inspecting Commander of the Coastguard in the Inland Division, was not present as he had intended; but he had sent Mr Jerome, chief-boatman at Sunderland, to take the command in his stead, and the substitute performed his duty very intelligently. The rocket apparatus kept at the Coastguard Station at Marsden was brought out for the use of the brigade, and after the lapse of little time a 9 lb. rocket was fired over Marsden Rock, where a number of the members were ready on the summit to receive the lines. A pretty stiff breeze was blowing, making it somewhat difficult to take a correct aim, because the wind catches the line in such a way as sends the rocket off in a direction which would rather puzzle an inexpert. But the rocket was fired beautifully, and the line fell right across the centre of the rock. Immediately about half-a-dozen hands set themselves to hauling up the whip-line and the hawser, and it was not long before the “breeches cradle" was seen dangling in the air. In a minute more one of the brigade had got into the so called cradle, and was gliding gently down from the giddy summit of the rock to the sands below, a hearty cheer greeting him on the safe termination of his aerial voyage. Other two men came down in same way, and in such a manner as demonstrated the safety of the apparatus. The hawser and lines were then hauled in, and another species of practice was exhibited. A small boat was pulled from the shore and lay a little way off, while two rockets were successfully fired in its direction. Miss Allan, of Marsden Rock Cottage, was requested to fire the rockets, and she performed the task very gracefully. The result showed the possibility of using the apparatus for rescuing those whose lives are jeopardised, it may be, by the capsizing of boat. The practice—which was altogether most satisfactory—was closed by firing a rocket without a line, to show how far it would carry The corps then marched back to Shields.

14 October 1865

The Tynemouth Volunteer Life Brigade. —A special meeting of the committee of the above Brigade was held last night in the Town Hall, North Shields—the Rev. H. S. Hicks in the chair—when a contract was entered into with Mr Taylor, joiner, for the latter to erect a suitable wooden house, 30 feet in length by 15 in breadth, for the use of the corps. It will be placed in the Spanish battery, and will be fitted up with a stove and other conveniences for the use of the men. The cost will be £63 and it was determined that a public subscription should be entered into to defray the expense.

27 November 1865

Tynemouth Life Brigade.—Although the weather was extremely wet there was a capital muster of this fine volunteer corps at the Spanish Battery, Tynemouth, on Saturday afternoon, for a special inspection by Captain Robertson, R.N., of the Board of Trade. Captain Robertson was accompanied by Capt Buckle, R.N., and Mr G. O. Trevelyan, M.P., was also present; and the muster of volunteers comprised clergymen, borough magistrates, aldermen shopkeepers clerks, workmen, and men of all ranks. Two rockets were fired, the lines were got into order, and the whole process of saving life from shipwreck was gone through in a prompt, ready, and praiseworthy manner. Capt Robertson expressed himself highly pleased with the progress the brigade had made, and intimated that it was the intention of the Board of Trade to send circulars to every port in the kingdom with a view to the establishment of similar volunteer brigades around the coast. Mr Trevelyan, who was loudly cheered, said that with most Englishmen he greatly admired cricket; but he thought that this brigade was even better than cricket for bringing all classes together, and developing in the youth of the coast all the manly qualities of the race. If anything could make him prouder of Tynemouth than he was, it would be the knowledge that the young men of the town were enrolled in such a manly enterprise as this. For himself, from what had seen that day, if he ever should have the misfortune to be wrecked at their harbour mouth, and they got their lines on board, with the knowledge that their brigade was at the other end of it, he would consider himself as good as saved. (Loud cheers.)

11 December 1865

Tynemouth Life Brigade.—On Saturday afternoon the members of the Tynemouth Volunteer Life Brigade assembled at the Spanish Battery, Tynemouth, for drill. The occasion possessed special interest from the presence Colonel Dalvigne, Inspector of lifeboats at France, who has been deputed by the French Emperor to visit this coast with the view of making himself acquainted with the formation and working of the Life Brigade. The drill having concluded, Col. Delvigne exhibited an invention of

his own, which he intends to be used by the Coastguard when patrolling the coast, and also by sailors on board of wrecked vessels. The contrivance consists of an arrow, which can be made to fit an ordinary rifle or gun, and used with equal efficiency by either. The arrow is made of very strong, tough wood, each end being tipped with a strong brass rim. At the top of the arrow, which protrudes out of the muzzle of the gun, is placed a double spliced knot. The arrow is placed into a loaded rifle, and a thin cord fastened to the splice at the top the arrow; and when is shot out of the rifle, the knot with the cord attached slides gently down the arrow until checked by the rim at the bottom, and communication is formed between a vessel and the land as with a rocket. When to be used at night time, Colonel Delvinge has the arrow so arranged that a fuse can be inserted on either side, which becomes ignited on leaving the gun, and so enables the flight of the arrow to be seen. The gallant colonel fired his arrow with great success, and the usefulness of the invention was generally admired. The colonel was present at a lifeboat turn-out at Sunderland this morning.

Source: Shields Daily Gazette 1865

BOROUGH OF TYNEMOUTH VOLUNTEER LIFE BRIGADE

Shields Daily Gazette 8 January 1869

The monthly rocket practice will take place on Saturday (To-Morrow), the 9th inst., at 3 o'clock in the afternoon. New Triangle will be Tested.

By Order of the Committee.

JOHN FOSTER SPENCE, Hon. Secretary

Shields Daily Gazette 11 February 1869

Borough of Tynemouth Volunteer Life Brigade.—This forenoon, the testing of a new apparatus by the inspecting commanders of the Sunderland, Cromer, and Berwick divisions of the Coastguard, was commenced at the Spanish Battery, Tynemouth. There was a good muster of members. The result of the test will be given our impression of to-morrow.

Shields Daily Gazette 12 February 1869

Borough of Tynemouth Brigade.—As we stated in our impression of yesterday, Captain Elliott, R.N., commander of the Sunderland Division of Coastguard Capt. the Hon. St. Clair, R.N., Inspecting Commander of the Berwick Division; and Captain Creesy, Commander of the Cromer Division, attended, in accordance with the directions of the Board of Trade, at Tynemouth, for the purpose of testing, in order to report upon the merits of the alterations in the rocket apparatus gear, suggested by Mr Byrne and Mr John Ellis. The trial the apparatus is to be continued to-day, but before expressing any opinion on the matter, we will, for certain reasons, wait until it is finished.

Shields Daily Gazette 13 February 1869

Borough of Tynemouth Life Brigade.— The trial of life saving apparatus was resumed yesterday forenoon, at the Spanish Battery, Tynemouth, under the inspection of Captain Elliot, R.N., Hon. Captain St Clair, and Captain Cripz, R.N. The suggestion of Mr Byrne is one which has never been tried before. A bight is fired with a block attached the rocket line, and a communication having been effected all the people have to do on board the ship is to get hold of this block and attach it to the mast or any other place they find convenient. Yesterday, the invention of Mr Ellis, one the South Shields Coastguardsmen, was tested. The object of the invention is to relieve the crews of the shipwrecked vessels from labour, and to save the hawser after the crew are rescued. A communication having being effected with the stranded vessel, there is sent from on shore a tail block with the hawser. The tail block is made a fast by the crew, after which the breeches buoy is sent off, and the crew by this means are landed, the whole of the work being performed by the

brigade on shore. According to Mr Ellis's invention, the hawser used in the rescue of a shipwrecked crew can be brought back on shore by means of a line attached the end of it, while Mr Byrne's invention can either be carried out with a double or single hawser, and wrought from the shore by the life brigade. The weather yesterday was very favourable, and the testing operations were witnessed by a large number of spectators. The inspecting officers will report upon the experiments to the Board of Trade.

Shields Daily Gazette 30 April 1869

TYNEMOUTH VOLUNTEER LIFE BRIGADE THE MONTHLY ROCKET PRACTICE will take place this (Friday) Evening, at Half past Seven o'Clock. Mr Hodgson's Storm Escape will be tried.

By Order, JOHN F. SPENCE, Honorary Secretary

Source: Shields Daily Gazette 1869