

SHANNON NAVIGATION.



FIFTH ANNUAL REPORT

OF THE

COMMISSIONERS

FOR THE

IMPROVEMENT OF THE

NAVIGATION OF THE RIVER SHANNON, IRELAND ;

WITH AN APPENDIX.

Ordered, by The House of Commons, to be Printed, 26 March 1844.

TO THE LORDS COMMISSIONERS OF HER MAJESTY'S TREASURY.

MAY IT PLEASE YOUR LORDSHIPS,

WE, the undersigned Commissioners, appointed under the Act 2 & 3 Vict. cap. 61, beg leave to submit to your Lordships this our Fifth Annual Report.

The progress made in the several works in hand or commenced during the past year has been satisfactory, but not equal to what we anticipated, or what would have been effected had not the contractors' operations been impeded by the unexpected and unusual floods at the season of the year when they would occasion the greatest inconvenience, which either broke through or overtopped the dams, and stopped the work during the entire month of June, and part of July; and further by the autumnal floods, which came down sooner than was expected.

Besides retarding the works, the contractors incurred considerable expense in unwatering the large spaces inclosed by their dams. In the early part of our operations chain-pumps were generally used, but experience soon proved that steam power would be more economical than manual labour. Hence steam-engines have been erected at almost every work, and where there was a sufficient fall, water-wheels have been established, and hand-pumps are now rarely used.

In the course of the last year the undermentioned works were completed:—

The pier at Cappagh, near Kilrush;

The great regulating weir and the works connected with it at Killaloe;

The lock at Meelick;

The bridge at Banagher;

The navigable cut and harbour at Lecarrow, on the Roscommon side of Lough Ree;

The new channel for the Arigna River, which now runs into Lough Allen.

At the request of individuals interested in the trade and town of Kilrush, the original design for the pier at Cappagh was altered, and carried out in a straight line. The parties who made the application were under the impression that the trade would soon increase so much as to render an addition to the length of the pier desirable; and as the work, if executed as designed, would debar them from the advantages to be gained by an extension of same, and coinciding in opinion with the applicants, we directed the alteration to be made, which we trust will meet with your Lordships' approbation.

During the past year we made contracts for the following works ; viz.—

1. For building a quay, 204 feet frontage, at Ballylongford, in the county of Kerry.
2. Clearing the river course, and building a quay at Clare, on the river Fergus, county Clare.
3. Clearing the course of the river Scarriff, falling into Lough Derg, and building a quay at Tomgrenney, and also one near the town of Scarriff, county Clare.
4. Regulating weir and lock at Rooskey, counties Roscommon and Longford.
5. The building of a quay at Lecarrow, county Roscommon.
6. A new masonry bridge at Lanesborough and at Tarmonbarry, counties Roscommon and Longford.

During the progress of the works, when the foundations of the piers and abutments were laid dry, it was found to be impossible to underpin them, and repair these bridges as originally contemplated ; hence, under the circumstances reported by us, we received your Lordships' approval for the erection of a new bridge at each of the abovementioned places.

In our last Annual Report we stated that the contractors for two small works near Limerick had failed in their engagements ; we were in consequence obliged to have the works completed under the superintendence of our engineer, and we are now about to close the accounts with the parties who made the original contracts.

The contractor for the Parteen works having been unable to proceed with his contract, we considered it our duty to take the work out of his hands, and to proceed with the same under the direction of our resident engineer at Killaloe.

We did not do so until we were assured of the inability of the contractor to proceed, and that the securities had declined to take any steps in the matter.

It is probable that, upon the completion of the work, the expense will be found to exceed the sum agreed upon with the contractor ; and in that case, we shall take the necessary measures to recover the excess, which we are authorized to do by the terms of the contract deed.

It having come to our knowledge, during last summer, that some of the contractors had adopted the truck system with regard to their workmen, we immediately intimated to the parties our extreme displeasure that such a system had been pursued, and our earnest desire that the men employed under them should be paid their wages regularly, and in the current coin of the realm. This expression of our feelings had the desired effect, and our wishes were immediately attended to. We believe that the parties alluded to acted from mistaken ideas, under the supposition that it would be an accommodation to their men, in the intervals between the periodical payments ; and as we have not received any complaints subsequently, we trust that the system has been abolished, and will not be resumed.

The workmen have generally been well conducted. Several threatening anonymous notices have been served upon some of our contractors ; not, however, as far as we have reason to believe, from any prevalent or general feeling of discontent on the part of the workmen, but the malicious acts of individuals, who had been dismissed for misconduct.

It being necessary that the extent of our jurisdiction for the works, which have been erected by us on the Lower Shannon, should be determined in conformity with the 39th and 40th sections of the Act 2 & 3 Vict. cap. 61, we caused Plans to be prepared and lodged at the several stations, as required by the Act, on which we marked the boundaries of jurisdiction, as fixed by us. Having held a court, we received and considered the objections offered, and then finally determined the limits. The Plans are described in the table in the Appendix, Schedule (K). These Plans, with those detailed in our Third Report, are lodged with our secretary.

The bye-laws for the works on the Lower Shannon having been approved by two of the judges of Her Majesty's Superior Courts in Dublin, the same have been posted up at the several stations.

We would beg leave to draw your Lordships' particular attention to the subject of those works, for which money has been granted, to be expended in conjunction with the contributions from proprietors, and the adjacent districts, for quays or piers on the Lower Shannon. Application has been made by us to the parties, as to their intentions or wishes.

The

The proprietors, in the following cases, have taken advantage of the provision of the Act 2 & 3 Vict., cap. 61; and the works executed or in progress are:—

Kilrush Pier	} completed.	Ballylongford and Clare, in progress.
Querrin Quay		
Kildysart „		
Kilteery „		

With regard to the following, no intention has been notified by the proprietors of proceeding; viz.—

Carrigaholt, Tarbert, Glynn, Foynes, and Askeaton.

We would therefore beg to suggest, that a limited period, say 12 months from the present time, should be allowed to the parties interested in the abovenamed works, towards the erection of which money was originally allocated by Parliament, to decide whether or not they would contribute their quota; and unless they signified their assent, that the Shannon Commissioners should be authorized to recommend to the Lords Commissioners of Her Majesty's Treasury the expenditure of the money in the extension or improvement of some of those already executed, or other similar works, where proprietors interested may be willing to contribute, as circumstances might render it expedient to do so.

From the 2d day of January to 30th December 1843, the daily average number of persons employed was 2,152, giving an equivalent of 671,378 days' work. During the above period, 421,681 cubic yards of material have been removed, by excavation and dredging, including 972 tons of boulder stones, by means of the pentagraph shears; and 6,389 lineal yards of earthen dams which were constructed, being equal to 3½ statute miles. To assist in the execution of the above, 59 pumps were employed, worked by 14 steam-engines, three water-wheels, and by manual labour.

DIVISION No. 1.—LOWER SHANNON.—KILRUSH PIER, COUNTY CLARE.

As stated in our last Annual Report, the foundations had been laid by the diving-bell; during the past summer the superstructure was carried up to the proposed height, and the work completed in the month of December last, in a substantial and satisfactory manner.

The regular trading steam-vessels have now a good berth allotted for their use, and square-rigged vessels of large tonnage are enabled to discharge or take in cargoes without interfering with the smaller or river craft which frequent this pier. Kilrush Pier is the first place within the mouth of the Shannon where vessels in distress can find shelter, or from where they can receive succour, and its contemplated extension is deserving of every consideration and support.

The average number of persons employed daily at Kilrush Pier from 2d January to 2d December was 40, being equivalent to 11,462 days' work.

BALLYLONGFORD, COUNTY KERRY.—(Quay 204 feet frontage.)

The first stone of this quay was laid on the 29th of October 1843, and the foundations have been gradually laid as the tides permitted. The contractor has been preparing stone at the quarry, and making every preparation for carrying on the work with vigour when the favourable season arrives, and we expect this work will be completed during the summer.

The average number of persons employed daily at Ballylongford from 4th September to 30th December was 17, being equivalent to 1,714 days' work.

CLARE QUAY, COUNTY CLARE.—RIVER FERGUS.

In May 1843, a contract was made for building a quay wall 390 feet in length, and clearing the river course in front of it, which was very foul from numerous rocks, which greatly confined the navigable channel, and rendered it dangerous for vessels when they grounded at low water.

The channel of the river in front, for the distance of 830 feet in length, by 200 feet in breadth, which is chiefly composed of rock and gravel, is to be excavated to a uniform and level surface, so as to allow vessels to swing round, and at low water to ground without being strained, or suffering any injury.

These works were commenced in July 1843, since which time a considerable quantity of the excavation in the bed of the river has been executed. Quarries have been opened, and a large portion of the ashlar has been prepared, and brought to the site of the works. Cranes and other machinery are also being erected for building the masonry.

The average number of persons employed daily at Clare, from the 17th July to 30th December, was 59, being equivalent to 8,320 days' work.

The quantity of clay, gravel, and rock excavated, amounts to 5,969 cubic yards.

DIVISION No. 2.— LIMERICK TO KILLALOE.

ATHLUNKARD.

WE stated in our last Report upon this contract, that we had been obliged to take measures for completing the work, in consequence of the contractor failing in his engagements. We directed our resident engineer to take the necessary measures for commencing operations as soon as the weather was favourable.

In the middle of March the masonry of the regulating weir at Corbally was commenced, and this work closed by the end of May.

The dams above and below the Athlunkard Bridge, which had not been removed by the contractor, were cleared away by the spoon and bag, the spoil banks levelled, and the works comprised in the contract completed.

The average number of persons employed daily at Athlunkard, from the 13th March to the 2d October, was 22, being equivalent to 4,341 days' work.

CASTLE TROY.

The contractors having failed to complete the work within the period agreed upon, and being unable to proceed with the same, we were in this case, as at Athlunkard, obliged to take the work into our own hands, which consisted principally of the removal of 733 lineal yards of the dams, and the excavation of 10,212 yards of boulder stones and gravel.

The works of the original contract have been completed, the spoil banks properly levelled, and compensation paid for the temporary damage to the occupiers of the adjacent land.

The average number of men employed daily at Castle Troy, from the 17th April to 11th November, was 44, being equivalent to 7,293 days' work.

WORLD'S END.

As soon as the water in the river had fallen sufficiently low to permit of operations being resumed, the building of the quay wall was recommenced, and the work completed by the end of October 1843.

A regulating weir was formed across the river to keep up the water in summer to a proper level for the navigation, and the dams removed. An excellent approach has been formed to the quay from Castle Connell. The inhabitants of this interesting village can now benefit by the navigation of the river, which previously could only be obtained after a considerable distance of land-carriage to O'Brien's Bridge.

The average number of men employed daily at World's End, from the 27th March to 8th October, was 23, being equivalent to 4,223 days' work.

PARTEEN.

Early in the spring we were made acquainted with the difficulties into which the contractor had fallen, and his inability to perform his engagements within the prescribed period, or even to proceed with the works; all his plant and stores having been seized and sold, and his securities having declined to proceed with the work, it became necessary for us to take measures for completing the contract. We directed our resident engineer to make the necessary preparations by the purchase of materials, tools, boats, &c., and on the 22d of May the works were resumed; but, owing to the extraordinary floods in June, which suspended the operations, very little was done before the 15th of July, when the steam-engine was again worked, and the excavation carried on. A large portion of the excavation was composed of red sandstone rock, the removal of which was both difficult and expensive; it was used in the erection of a retaining and quay wall at O'Brien's Bridge, and also in paving and protecting the slopes of the banks of the river. As it was desirable to have these works finished before the winter floods came down, in order to have the navigation interrupted as little as possible, they were carried on with great vigour both by day and night. On the 27th October the piles in the cross dams at each end were drawn for about 60 feet in length, and the navigation was opened on the 3d November; the clearing away of the temporary dams is the only work remaining to be done. Connected with this work is the improvement of the line of trackway immediately below O'Brien's Bridge, which has been filled in with the spoil excavated from the shoal at Parteen, and the slopes have been paved with the stone, and a quay wall has been built for the accommodation of trade-boats.

An eight horse steam-engine, with two 14-inch pumps, was employed. Subsequently it was found that these two pumps, assisted by two chain-pumps, were not equal to keep the water down; two additional 10-inch pumps were added to the engine.

The average number of persons employed daily at Parteen, from the 2d January to 30th December, was 84, being equivalent to 26,427 days' work.

The total quantity of excavation executed at Parteen was 11,219 cubic yards, composed of gravel and rock.

 LIMERICK NAVIGATION.—FROM LIMERICK TO KILLALOE.

The works executed upon this portion of the navigation have been the necessary repairs to the canal banks, trackways, lock gates, bridges, lock-keepers' houses, and in many parts the back drains have been cleaned.

The average number of persons employed daily from the 23d January to 18th November was four, being equivalent to 918 days' work.

 DIVISION No. 3.—KILLALOE TO TARMONBARRY.

KILLALOE.

At the close of the year 1842 there remained 550 running feet of the weir to be completed; this work was commenced in April, and carried on with spirit until the June floods broke over the dams, which caused the operations to be suspended until the middle of July, when the dams were repaired, and the work resumed. The weir was completed at the end of August, the excavation below it having been cleared; the river water was allowed to flow over the entire length of the weir, viz., 1,100 feet.

Notwithstanding the great body of water which fell in the early part of the winter, the water in Lough Derg, which contains 29,570 acres, rose 6½ inches in 24 hours; the height of the water above the top of the weir never exceeded two feet eight inches, and that only for a very few days; whereas in former years, floods of a similar character would have raised the water in Lough Derg to a height of about nine feet nine inches.

The other works executed at Killaloe consisted of the building of a retaining wall, 650 feet in length, between the bridge and pier head, thus gaining space where

it was much wanted, as well as improving the river course: 25,626 cubic yards were removed from the bed of the river, and there still remains about 51,000 cubic yards to be removed by dredging. In connexion with this contract is the foundation of an embankment at Cussane, two miles below Killaloe, which is now completed; about 25,000 cubic yards of gravel and stones were conveyed by barges from Killaloe; an opening for the discharge of Ballyhague Mountain stream has been left 24 feet wide; the trackway is carried across the opening by a bridge formed by iron girders, and roadway plates supported upon piles.

This embankment must be considered as a very great improvement. The trackway now crosses a deep bay by a direct line, instead of the former difficult and circuitous course round the verge of a deep inlet.

The average number of persons employed daily at Killaloe, from the 2d January to 30th December, was 117, being equivalent to 36,588 days' work.

The quantity of material excavated was 25,626 cubic yards.

SCARRIFF.

The works at this station consist of excavating and dredging a portion of the bed and banks of the Scarriff river, for the purpose of making it navigable for steamers and trade boats, from Lough Derg to the town of Scarriff, being about two miles in length; also, of building a quay wall and wharf, 120 feet in length, at Tomgreney, and another, 240 feet in length, at the termination of the works, at Scarriff.

In March the contractor commenced by making a cut for the purpose of diverting the river course, to enable him to form his dams, and pump out the water with greater advantage whilst carrying on the works.

For the purpose of laying the bed of the river dry, a six-horse power steam-engine, with two metal pumps seven inches diameter, was employed, discharging 12,600 gallons per hour; but these not proving sufficient, a chain-pump, worked by six men, was added to the above, which discharged nearly an equal quantity as those worked by the engine. A large portion of the river having been laid dry, about 300 men were employed daily in blasting and removing the rock, and in excavating the gravel.

On the 9th of August the works were suspended, in consequence of the floods in the river; and on the 31st the foundations of the quay wall were laid at Reddans Quay, and the building of the wall was carried on until the 10th September, when this work was stopped for a second time by the floods in the river; but on the 16th the water had fallen sufficiently to allow of the dams being reformed, to enclose the site of the proposed harbour at Scarriff, as well as of the quay wall, the building of which was carried on until November, when it was completed, with the exception of a small portion of the coping, which still remains to be set.

The average number of persons employed daily at Scarriff, from the 13th March to the 2d of December, was 132, being equivalent to 29,825 days' work.

The number of cubic yards excavated was 24,437, and the quantity removed by the dredging-vessel amounted to 11,905 cubic yards; making a total of 36,342 cubic yards.

DERRY SHOAL.—(At the North Entrance into LOUGH DERG.)

The channel which had been cleared through this shoal in 1842, by means of Siebe's diving-dress and helmet, was, during the past year, by a similar operation, enlarged; making the width 100 feet. The guide-piles were raised and put down again, so as to mark the limits of the present navigable channel.

The average number of persons employed daily at Derry Island Shoal, from the 21st August to 16th September, was 22, being equivalent to 311 days' work.

The weight of stones raised amounted to 211 tons.

MEELICK.

The masonry of the lock has been completed, and the gates fixed. The whole is now ready to be used, as soon as the excavations of the channel at Keelogue Ford shall have been completed.

The lock has been built on the southern extremity of the channel, upon a solid foundation of rock; is 175 feet long between the gates, and 40 feet wide at the hollow quoins; the rise being eight feet, and affording seven feet of water on the sills in the summer season; its wing walls are built of solid masonry, terminating at each end with slopes, which are paved with massive stone pitching.

The lock is filled by two sluices four feet six inches by three feet each, which are formed of cast-iron, faced with brass, and are worked by powerful machinery, consisting of rack-work and spur-gear. These sluices are attached to the land tunnels, which pass through and under the side walls of the lock.

Owing to the difficulty of procuring English oak of the required scantling, the gates have been made of French oak, of excellent quality, which has been mortised and tenoned, and secured by wrought-iron straps, and planked with Memel timber. The lower gates have been fitted up with four cast-iron sluices, three feet five inches by one foot seven inches each, faced with brass, and made perfectly water-tight, and are also worked by rack-pinion and spur-gear.

The gates are opened and shut by means of powerful crab winches and chains, which pass through the masonry and between cast-iron rollers, which are secured in the side walls. The entire of the machinery is encased in cast-iron boxes, to preserve it from the action of the weather; each pair of gates can be opened and shut in one minute and a half, and the lock can be filled or emptied in three minutes; so that, by using any moderate exertion, a vessel may be passed through the lock in the space of five minutes.

The lock-house was commenced in last September, and the greater part of the inner and outer walls have been raised ready to receive the roof.

THE WEIR.

Three hundred and forty-two lineal feet have been built during the past year, making a total of 500 feet completed, being nearly one-half of the proposed length of the weir.

KEELOGUE SHOAL.

This shoal, which is upwards of 2,000 feet in length by 250 feet in breadth, has been excavated nearly to the required depth, and would have been completed before the close of the past year, and the improved navigation to Shannon Harbour available for public use, had not the contractor's operations been interrupted by the repeated floods from April until August; every exertion was made on his part to forward the work; workmen were employed double shifts, each gang of excavators working 10 hours, viz. from 2 a. m. until 10 p. m.; from the interruptions caused by the floods the work was not completed.

The material excavated was conveyed by waggons on a railway, partly to form the embankment between Innisherkeigh and the New Canal Bank, on the King's County side of the river, and also to form the river bank from the head of the ford, above the village of Keelogue, down to the retaining wall of the weir, on the County Galway side of the river.

The material of which this ford is composed consists of hard indurated clay and gravel, mixed with large boulder stones, of so compact a nature as to require the use of gunpowder to throw it down in sufficiently small masses for loading the waggons, thereby considerably retarding the operations.

A quay wall or wharf, 60 feet in length, has been built at the village of Keelogue. The accommodation thus afforded, and the facility with which trade boats can take on board agricultural produce, will undoubtedly prove of great benefit to its inhabitants, as well as to the farmers of the surrounding district.

The undermentioned shoals, composed of gravel and large boulder stones, between Keelogue Ford and Banagher, have been removed by the dredger Victoria; viz. Innisherkeigh, Illanadraholla, Shannon Grove, Esker, Lusmagh, Cogan,

Cogran, and Garry Castle, amounting to 20,756 cubic yards, being at the rate of 93 cubic yards per diem, which is considerably under the daily average quantity dredged last year, arising from the compact hard nature of the material of which these shoals were composed, and the number of large stones which required to be raised by the pentagraph shears.

The average number of persons employed daily at Meelick (Lock and Weir,) and Keelogue shoal, from 2d January to 30th December, was 271, being equivalent to 84,529 days' work.

The quantity of material excavated and dredged amounted to 61,173 cubic yards.

BANAGHER.

The bridge at this place consists of six elliptical arches, 60 feet span, with a versed sine of 16 feet, and a navigable opening of 40 feet; with an iron swivel-bridge, 45 feet span, 8 feet 9 inches versed sine, the first stone of which was laid on the 21st of August 1841; was completed and opened to the public on the 12th of August 1843.

The piers are eight feet thick; the foundations of the western abutment, and all the piers except the swivel-bridge abutment pier, were built upon a timber grating composed of two tier of whole balks; the intervening spaces were filled with rubble stone and good hydraulic mortar. The eastern abutment of the swivel bridge was founded upon piles four feet apart, upon which sleepers were laid and covered with a platform of three-inch plank.

BANAGHER BRIDGE.

DIMENSIONS.

No. of Arches.	Span of Arches.	Rise of Arches.	No. of Piers.	Breadth of Piers.	Length of Piers.	Width of Bridge from out to out of Parapets.	Length of Bridge from Abutment to Abutment.	Water-way.	Inclination of Approaches.	Length of Bridge including Approaches.	OBSERVATIONS.
	<i>Feet.</i>	<i>Ft. In.</i>		<i>Feet.</i>	<i>Feet.</i>	<i>Ft. In.</i>	<i>Feet.</i>	<i>Feet.</i>		<i>Feet.</i>	
6	60	16 0	5	8	37	27 4	480	400	1 in 30	1380	The bridge is built of limestone, and consists of six elliptical arches, with an iron swivel-bridge attached.
1	40	4 9	1	40	100	—					

For the accommodation of trade boats, a quay of 400 feet frontage has been built. By the accommodation thus afforded, the inhabitants will have the full benefit of the navigation, by the trade being brought up to the town.

Upon the opening of the new bridge an experimental charge of 50lbs. of powder was placed in one of the piers of the old bridge, which, when exploded, succeeded perfectly as to the effect desired; it was then decided to destroy the remaining portions by simultaneous explosions; every alternate pier was then charged as above, and fired; the effect was admirable: the entire length (550 feet) of the old bridge was gently thrown up, and fell a mass of rubbish.

As soon as the state of the river permitted, the longitudinal dam which had been used in 1842 was re-formed, and cross dams at top and bottom, joining it with the river bank, constructed to complete the inclosure. A 12-horse power high pressure steam-engine, with eight pumps, was erected for unwatering the dam, also for drawing the loaded waggons from the bed of the river to the spoil bank.

On the 2d June the upper stanks, being unable to resist the increased pressure of the floods, gave way, and the inclosed space was immediately filled; the operations were consequently stopped until the 8th of July, when the work was resumed by the formation of dams, to inclose another portion of the shoal; and by the 19th of July the unwatering was perfected, and the excavation resumed.

The appearance of this shoal when laid dry was unusual and extraordinary; the entire surface of the bed of the river being covered with immense rounded blocks of limestone, many of them measuring from 11 to 20 tons; the enormous size of these blocks rendered their removal unbroken out of the question; they were consequently

consequently reduced in size by blasting, and the broken masses were then lifted into the waggons by cranes erected for that purpose.

The work was proceeding satisfactorily, when, on the 9th of August, the cross dam at the lower end of the inclosure burst, and the included space was again filled with water. Additional pumps were fixed, and the unwatering effected a third time. The excavation continued until the 14th October, when the floods again came down and overtopped the dams. Fortunately, the upper part of the shoal had been cleared of the blocks of stone which were scattered over the surface; and as soon as a passage was cut through the longitudinal dam, the dredger Victoria was brought up, and commenced removing the natural bed of the river.

The only work remaining to complete this contract is the removal of the dams; and with two months' work upon them and the ford at Keelogue, the improved navigation will be open from Killaloe to the entrance of the Grand Canal at Shannon Harbour, a distance of 38 miles.

The average number of persons employed daily at Banagher, from 2d January to 30th December, was 280, being equivalent to 87,516 days' work.

The quantity of material removed was 33,070 cubic yards.

INNISCAGH.

(A small Island a short distance from Shannon Harbour Bridge.)

There being a point of the island which was in the direct line for the improved navigation, it became necessary to remove the same.

Early in March the dams were formed to inclose the part to be removed, and the included space unwatered. The excavation was then commenced, and 1,420 cubic yards were removed, which lowered the surface to that level which will enable the remaining quantity to be removed by dredging, as soon as the state of the water will permit of a dredger being used there.

The average number of persons employed daily at Inniscagh from the 6th of March to the 11th of March, was 155, being equivalent to 930 days' work.

The quantity dredged amounted to 1,420 cubic yards.

DERRYHOLMES.

The repairs of the dams commenced early in March, and the steam-engine, with the pumps, put into working order. In seven days the water was lowered sufficiently to permit the excavators being set to work.

The excavation was carried on successfully, notwithstanding the great body of water which percolated and boiled up through the fissures in the rock. A second steam-engine, to work two additional pumps, was fixed and set to work, and everything proceeded vigorously until the 1st June, when the floods came down, overtopped the dams, and filled the inclosure. Everything was stopped until the 30th June, when, the river having fallen sufficiently, the dams were repaired, and the pumps were again set in motion.

The contractor having been so much impeded in the progress of his work by the great leakage through the fissures in the rock, determined to make a substantial cross-dam, with the view to secure the lower part of the shoal. It was made 36 feet broad at bottom, 4 feet thick at the top, and 13 feet in height.

The labour and expense bestowed upon this work was fully repaid by the advantage gained, in reference to the subsequent operations; during the entire season it was a struggle between the pumps and the leaks; if the former stopped for a few hours, the water rose rapidly to such a height as to prevent the men from working.

One of the dredging-vessels was employed at the head of the shoal, and was only able to work 166 days out of 246, the number of working days.

The material which has been dredged is of a particularly unfavourable nature, which may be judged of from the low rate of work of the dredger, particularly during the last two months, when the average quantity dredged each day was only 35 cubic yards; much time was occupied in raising large stones with a pentagraph shears and derrick. The number of stones raised in this manner at Derryholmes during the year was 708, varying in size from two to 30 cubic feet,

and amounting altogether to about 292 tons. The undermentioned quantities have been removed in the course of the past year.

Rock	-	-	-	-	-	-	4,868	cubic	yards.
Excavation in gravel	-	-	-	-	-	-	9,210	"	"
By dredging	-	-	-	-	-	-	14,132	"	"
							28,210	cubic yards.	

The average number of persons employed daily at Derryholmes, from 27th February to 11th November, was 92, being equivalent to 20,937 days' work.

GARRYMORE.

The dredger was moved up from Derryholmes to this shoal, and commenced working there on the 16th October. This shoal was partly dredged in the year 1841, and the shoal lowered to the required depth.

The part removed was found very difficult to dredge, in consequence of the number of large boulder stones embedded in the clay and gravel, which had to be raised by means of the pentagraph shears; some of these stones contained 60 cubic feet, and on account of their weight could not be raised completely out of the water by the machinery in use, but had to be raised near to the surface of the water, and the barge in which the derrick was fitted up was then moved with the stone suspended, until it could be deposited near the bank of the river, out of the line of the channel. The vessel was employed at this part of the shoal from the 17th of October to the 4th November, during which time the number of stones raised was 103, varying in size from two to 60 cubic feet, (the average being 12), the whole weighing about 93 tons.

The flood being high in the river at this time, and the current strong, it was found difficult to use the pentagraph shears with advantage, and it was considered better to leave this part of the shoal to be completed when the water shall be lower. It was also very desirable to take advantage of the high flood to enable the dredger to float over and remove some parts of the shoal which had not been topped, and which it was contemplated to remove by means of excavation within dams. The dredging-vessel was accordingly set to work.

The material dredged at Garrymore (with the exception of the part described) was of a favourable nature. The average quantity dredged each day, was 131 cubic yards, being just the same as the average work done at this shoal when the dredging-vessels were working there in the year 1841.

The total quantity excavated by the B dredger, during the year, was only 20,578 cubic yards. This is far short even of the quantity removed in the previous year, which was considered to be much below the average work of the dredger. The deficiency was caused chiefly by the extraordinary nature of the material to be excavated, and partly from being unoccupied during the months of July, August, and September.

The number of working days in the year was 312; and the number of days on which dredging was done, was only 215, being little more than two-thirds of the whole number, instead of three-fourths, which was found to be the proportion in former years. The average work of this dredger, during the year 1843, has been 95 cubic yards per day, when actually at work; or 66 cubic yards for every working day in the year.

The average number of persons employed daily at Garrymore, from 15th October to 30th December, was 21, being equivalent to 1,050 days' work.

SHANNON BRIDGE.

The works consist of underpinning nine piers of the old bridge; of taking down the present lock, together with the arches, parapets, and retaining-walls over same; of removing the embankment both above and below the bridge, with its retaining-walls; of constructing a cast-iron swivel bridge, with its pier, abutments, pilasters, and approach walls; and of deepening the bed of the river. The works were commenced on the 13th of February 1843, by removing the embankment, and making dams to enclose eight arches of the bridge. For the purpose

purpose of unwatering the dams, a steam-engine of 12-horse power was erected, with the requisite pumping machinery, which commenced work on the 19th April. The excavation was then carried on until the 2d June, when the floods obliged the works to be suspended until the 5th July. In the meantime, a temporary bridge was erected over the canal lock, and opened for use on the 9th of June; after which, the canal arches and retaining-walls were taken down, and dams formed at each end of the canal.

The underpinning of the six piers was conducted with great skill; and the work having been pushed on with great vigour, was speedily and satisfactorily executed, notwithstanding the delicate nature of the operation; the piers being only seven feet thick, and the underpinning seven feet.

The chief difficulty experienced in the underpinning operations arose from the quantity of water which sprung up through the gravel; and the steam-engine not being able to keep the water below the level of the foundations of the underpinning, small stanks were formed round each portion of the foundation, and the water baled out by men with scoops; the level of the water within the principal dams being generally from one to two feet above the foundation level. There were 19,014 cubic yards of material removed from the bed of the river during the past year.

In order to afford every accommodation to the trade during the winter season, we directed that a passage should be made through the upper and lower cross dams; for which purpose the dredger "Prince" was moved up from Banagher; and in a few days a clear passage, of 60 feet opening, was made through them.

Swivel Bridge Works.—The contractor also commenced the formation of an inner longitudinal dam, with the intention of separating the part of the bridge which has been underpinned from the other portion of the excavation, so that the swivel bridge works might be proceeded with, while the arches which were deepened might be thrown open to discharge the flood water.

A large setting-frame was also set up, and stones prepared for building the abutment. About this time the flood began to rise rapidly in the river; and on the 11th October it was so high that the contractor was obliged to put a stop to the pumping, and let the dams fill with water; and it was not practicable to unwater the works again during the remainder of the year.

The average number of persons employed daily at Shannon Bridge, from the 13th February to 30th December was 73, being equivalent to 20,140 days' work.

ATHLONE BRIDGE.

The works of this contract are now in a forward state; the great difficulties experienced from the water boiling up in great force within the dams were mastered in a very skilful manner by the contractor, and the dams, which were constructed according to his own designs, and approved of by us, were perfectly water-tight, and sufficiently strong to resist the great pressure of the water outside, during the winter floods.

All these difficulties being overcome, the masonry of the piers and abutments was carried on steadily. The three arches are in a very forward state, and in the course of a month or six weeks will be keyed in. We may confidently state that this bridge will be completed and opened to the public within the period stipulated by the contract.

Seventy tons of metal castings for the swivel bridge have been delivered, and partly fitted into the masonry. The retaining-walls for the approach to the bridge on the Westmeath side are carried up to the height of the level of the roadway.

The quay wall, extending from the new to the old bridge, has been built to the required height.

The work executed at the close of this year comprised the whole of the piers and abutments.

One of the two retaining-walls to the approach on the Connaught side of the river completed to the height of the cornice; one of the retaining-walls to the approach on the Leinster side of the river completed to the same height, and the other wall partly built; nearly half the number of courses in the three main arches of the bridge set; the small land arch completed; the lower traverse plate, the abutment plate, and the pivot fixed down upon the western pier of the swivel

bridge, and also the roller-frame set in its place; the whole of the quay walls in the contract completed, with the exception of erecting the mooring posts, and the steps in Hatter's-lane.

ATHLONE LOCK AND WEIR.

The contractors having prepared their workshops, and collected the materials necessary, commenced the construction of the coffer-dam, and the bed of the river on the line of the dam was cleared by the spoon and bag; this having been done, piling commenced on the 17th April, and was completed in the early part of the month of October*. Eight pile-driving engines were employed, and about 35,000 cubic feet of timber consumed in the formation of the dam.

At the latter end of the year, two water-wheels, 16 feet in diameter, were erected a short distance above the dam, and two wooden pumps, 12 inches square, fixed within it, for the purpose of unwatering the same. The quay extending from the dam upwards to the old bridge, 225 feet in length, has been built, ready to receive the coping; considerable progress has been made in the formation of the embankment on the Leinster side of the river, and about 200 feet in length has been faced with rubble pitching.

A small portion of the piling of the weir, on this side, has also been executed.

The average number of persons employed daily at Athlone Bridge and Lock, from 2d January to 30th December, was 412, being equivalent to 128,655 days' work.

The total quantity of material removed, 21,508 cubic yards.

LECARROW.

The clearing of the canal from Lough Ree to the mill at this place has been completed, a small harbour formed, and a quay wall built, 150 feet frontage, which will permit the largest trade boats on the river to discharge or take on board a cargo. A good road had been made, communicating with the high road between the towns of Athlone and Roscommon; the ground on which the accommodation road is formed has been made over to us for a nominal sum, by R. W. Bond, Esq. of Lecarrow.

Great advantages will be gained by the quay, from the facilities afforded to the contractors for the shipment of stone, required for the bridge and lock works at Athlone, independent of the benefits which the adjacent district will derive from it hereafter.

The average number of persons employed daily at Lecarrow, from 2d January to 30th December, was 18, being equivalent to 5,589 days' work.

LANESBOROUGH.

At the commencement of the last year we made a contract for the removal of the shoal, and the underpinning the piers of the bridge, and the erection of a swivel bridge for the navigation. The work was commenced by the formation of a longitudinal dam, in the centre of the river, extending the entire length of the shoal; this was connected with the shore on the Longford side, by cross dams, and the excavation within the part thus enclosed, was commenced and carried on with great energy until the middle of April, when heavy rain set in, which continued for six days, causing the river to rise and overtop the dams; the work was consequently stopped until the middle of May, when the excavators were again enabled to re-commence, and continued at work until the end of the month, when the river having risen three feet above the ordinary summer level, everything was again inundated; a most unfortunate occurrence, as there only remained
about

* The piling was entrusted to Mr. John Davis, who had just returned from Pesth, in Hungary, where he had been engaged in forming the coffer-dams for the piers of the suspension bridge, across the Danube at that place; and it is but justice to him to state, that he has executed this part of the work at Athlone in a most creditable manner.

about 400 cubic yards to be removed to complete this part of the work. The contractor having suffered so much loss by pumping with manual labour, commenced putting up a high pressure steam-engine of six-horse power, to work two pumps, 14 inches diameter. On the 3d of July everything was ready for unwatering, the third time this season.

The excavations and formation of cross dams continued with more or less interruption until the middle of November, when the rise in the river again broke through the dams, and put a stop to these operations until a more favourable season.

It might be supposed that blame attaches to the contractor for not having made his dams of sufficient strength; we acquit him of any such neglect; the season was so extraordinary, that the precautions taken, which would have been most effectual and secure in ordinary seasons, proved of little avail against the unexpected and sudden rises in the river. These interruptions will entail considerable expense upon the contractors; and it is only justice to them to state, that they have met all their difficulties in a most praiseworthy manner, never allowing themselves to be disheartened, and invariably endeavouring, by personal zeal and attention, to counteract the damages and delays occasioned by the floods. As soon as the foundations of the bridge were laid dry, and an opportunity afforded of examining them, they were found to be of such a bad description as to render the underpinning of the piers a work which, if attempted, threatened to bring down the whole superstructure; we therefore recommended that a new bridge should be erected. This recommendation your Lordships were pleased to sanction; and we have the satisfaction of stating, that at the close of the year this work was in a very advanced state.

The first stone of the new bridge was laid on the 17th of July; and at the end of December, five out of six arches forming the new bridge were keyed in; and had it not been from the delays in getting in the foundations, arising from the overflowing of the dams, the bridge would have been completed by the end of the year.

The average number of persons employed daily at Lanesborough, from 20th February to 30th December, was 252, being equivalent to 67,175 days' work.

The quantity of material excavated was 61,200 cubic yards.

KILNACARROW SHOAL.

The formation of the dams for enclosing this shoal were commenced early in April, and by the end of the month the water had been pumped out sufficiently to allow the excavators to commence. On the 26th the water in the river had risen considerably, and forced in the dams. Operations were suspended until the 19th of May, when the excavation was resumed, and continued until the 3d June, when the great flood in the river overpowered everything, filled the dam, and all further progress was stopped, until the 30th of the month, when the repairs to the dams were again put in hand.

The dam at the head of the shoal having unfortunately been formed upon soft ground, and the water within having been withdrawn too quickly, the pressure from without, added to the weight of material in the dam, caused it to settle down, and then to slip inwards. Every exertion was made to strengthen the dam, and stop the movement, but without success; it was forced inwards, and every part of the work was again inundated. Steps were immediately taken to repair the dam, and to prevent a recurrence of a similar disaster, which was accomplished by forming a second dam within the outward one, the space between the two being filled with water, to afford an equal pressure on both sides of the outward dam. When the outer dam had firmly settled, the water between the two dams was drawn off by degrees. The excavations continued, and there was every prospect of completing the excavations before the winter, when, on the 11th of October, the water in the river rose to such a height as to baffle all the efforts to support the upper dam, when it was again forced in, and everything stopped for the season.

The average number of persons employed daily at Kilnacarrow, from the 29th May to 30th December, was 132, being equivalent to 24,016 days' work.

The quantity of material excavated was 18,237 cubic yards.

LODGE CUT.

In the beginning of the month of April the contractor commenced forming the dams for inclosing the upper part of the shoal, and by the 24th the excavations were commenced, when the flood came down, burst the dams, and filled the inclosure with water. On the 11th of May operations were again resumed, and continued until the 1st of June, when the dams burst and stopped the work until the 11th of July, when, the flood having subsided, the excavators re-commenced, and continued working night and day until the 17th of October; the operations were then again impeded by the bursting of the dams. Nothing further can be done until the water in the river shall have fallen to a sufficiently low state in the ensuing spring of the year.

The average number of persons employed daily at Lodge Cut, from 29th May to 28th October was 251, being equivalent to 32,864 days' work.

The quantity of material excavated was 24,722 cubic yards.

TARMONBARRY.

A contract was made for the construction of a swivel bridge, lock, and weir, together with the removal of 120,000 cubic yards of excavation in the bed of the river. Operations were commenced by forming 860 lineal yards of dams, and excavations carried on until the beginning of June; by this time 9,400 cubic yards had been removed, when the floods came down, overtopped the dams, and inundated all the works. Nothing was done in the bed of the river during the month of June.

Considerable exertion has been made by the contractor to get on rapidly with the excavation in the river bed, but the season turned out most unfavourable; and the floods (even in the months of August and September) in many instances, not only put a stop to their operations, but did much damage to the dams, causing thereby great delay in resuming work, which was not anticipated at that season of the year.

A length of three-quarters of a mile from the site of the lock, up stream, has, with small exception, been excavated to its required depth and width.

The heaviest portion of this is situated at the group of islands half a mile above Tarmon Bridge; here the contractors erected a six-horse high pressure steam-engine, which proved most valuable. On the 11th September all excavating operations were put a stop to by the flood, which overpowered the best efforts of the engine: and the water has not since subsided to an extent to make it advisable to resume.

When the bed of the river had been laid dry, the foundations of the bridge were ascertained to be so bad as to preclude the possibility of underpinning the piers, without the risk of bringing down the entire superstructure; it was therefore proposed by us to build a new bridge, and your Lordships were pleased to approve of our doing so. A contract was entered into for building a bridge of four arches, 33 feet space, with a navigation arch, instead of the seven arches then existing in the old bridge. This work has been carried on in a satisfactory manner, and at the close of the year the piers were raised to the level of the springing courses, and the approach wall on the Roscommon side carried up to the level of the roadway.

THE LOCK.

The only work executed has been the formation of the dam, within which the lock is to be built, and the erection of a horse-pump. The embankment between the bridge and the lock has been raised to its height, and half the retaining-wall, with its coping, has been built on the land side.

The average number of persons employed daily at Tarmonbarry, from 20th February to 30th December, was 206, being equivalent to 54,791 days' work.

The quantity of material excavated was 29,106 cubic yards.

ARIGNA RIVER (Mount Allen).

At the close of the year 1842, we reported certain progress as having been made in the excavation of the new cut; immediately the state of the weather permitted, operations were resumed, and the cut completed by the end of October, when the river was turned into the new channel, discharging itself into Lough Allen, thus preventing the great damage which formerly was occasioned by the great body of water which heretofore suddenly rushed down from the mountains, inundating and injuring considerable tracts of land.

The average number of persons employed daily at Mount Allen, from 7th August to 28th October, was 37, being equivalent to 2,707 days' work.

RENTS AND TOLLS.

The rates of tolls and wharfage between Limerick and Lough Allen remain the same as detailed by us in our Second Report. On reference to the returns appended, there appears a decrease in the total amount of tolls and wharfage received during the year 1843, as compared with 1842, of 90 *l.* 1 *s.* 2 *d.*, which has principally taken place on the Limerick navigation, where an unusual amount of tolls and wharfage was collected in 1842, on stone, gravel, &c. for the works. There is also a decrease in the gross tonnage of articles loaded or landed, which appears to occur principally on articles used for the works, particularly stone and gravel loaded at stations on the Limerick navigation, which is the portion of the river where the decrease occurs in the receipts, and where works have been completed.

The collection of the new rates of quayage and wharfage at the piers on the Lower Shannon, as sanctioned by your Lordships, commenced at Querrin and Kildysart piers in January 1843.

ACCOUNTS.

We forward herewith, in compliance with the 18th Section of the Act, accounts showing the amount of all sums received and expended by us during the year ending 31st December 1843, and in doing so we beg to draw attention to Account No. 4, from which it will appear that out of the large sums that have been advanced by us from time to time, as loans to counties, and which are repayable with interest, by half-yearly instalments, the only item in arrear at the end of the year 1843 was a sum of 633 *l.* 2 *s.* 11 $\frac{1}{2}$ *d.*, due by the grand jury of the county of the city of Limerick.

This arrear has accrued in consequence of certain alterations made by the Municipal Act, in regard to the county, and the county of the city of Limerick, whereby a portion of the latter has been joined to the county; but without any provision having been made for securing from the county the repayment of that proportion of the advances made by us under the Act 2 & 3 Vict. c. 61, with which the portion of the city so transferred to the county is chargeable. We beg to refer your Lordships to a letter on this subject which we received from Mr. Barrington, the Crown solicitor, and which will be found in the Appendix, p. 31.

In certifying to the respective grand juries the amount of our expenditure, and the sums repayable by them, there was no power given to us under the Shannon Act, 2 & 3 Vict. c. 61, to apportion our expenditure or vary our certificates in such a manner as would meet the altered circumstances effected by the Municipal Act; and the grand jury of the city of Limerick refuse, in consequence, to present the full amount of our certificate, which contains the whole sum payable by the city previous to the change referred to; and on the other hand the county grand jury decline to present for any additional sum beyond that certified by us.

We have, &c.

(signed) J. F. BURGOYNE,
HARRY D. JONES, } Commissioners.
RICHARD GRIFFITH, }

Shannon Commission Office, }
Custom-House, Dublin, }
23 March 1844. }

E. Hornsby, Secretary.

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A P P E N D I X.

— No. 1. —

ACCOUNT of the several Sums Received and Expended by the SHANNON COMMISSIONERS
between 1st January and 31st December 1843.

ESTABLISHMENT.

RECEIPT:	£. s. d.	£. s. d.
To Balance of Account for Year 1842 - - - - -	7 13 8½	
To amount lodged to the credit of the Commissioners in the Bank of Ireland by the Paymaster of Civil Services - - -	2,802 10 1	
TOTAL - - -		2,810 3 9½
EXPENDITURE:		
By establishment - - - - -	2,104 17 6	
By occasional clerks - - - - -	72 9 3	
By travelling expenses - - - - -	300 8 -	
By postage - - - - -	48 11 10	
By contingencies, including books, maps, coals, &c. - - -	129 15 5	
By law contingencies - - - - -	163 11 3	
TOTAL - - -		2,819 13 3
Excess in Expenditure - - - £.		9 9 5½

Shannon Commission Office, }
Custom-house, Dublin. }

H. J. Mason, Accountant.

— No. 2. —

ACCOUNT of the several Sums Received and Expended by the SHANNON COMMISSIONERS
between 1st January and 31st December 1843.

WORKS.

RECEIPT:	£. s. d.	£. s. d.
To Balance of Account ending 31st December 1842 - - -	9,128 8 11¾	
To produce of Exchequer Bills issued by the Treasury - - -	80,023 15 -	
TOTAL carried forward - - - £.		89,152 3 11¾

WORKS—continued.

EXPENDITURE :

No. of Work in the order in which they stand in the 4th Report of the Commissioners of Inquiry, pages 11 and 12.	NAMES OF WORKS.	Amounts Expended.			£.	s.	d.
		£.	s.	d.			
	Total Receipt brought forward - - -	-	-	-	89,152	3	11½
1	By Kilrush Pier - - -	2,429	1	-			
5	Ballylongford - - -	36	-	-			
9	Cahircon (Kildysart) - - -	134	5	1			
10	Clare - - -	973	7	11			
13	Arthur's Ferry (Illanarone) - - -	1,447	12	2			
14	River Shannon at Plassey - - -	10	2	11			
15	Castle Connell - - -	1,368	1	2			
16	O'Brien's Bridge, Parteen Rapid, &c. - - -	2,507	3	3½			
18	Killaloe - - -	2,674	-	1			
19	Lough Derg - - -	135	-	-			
20	Derry Island - - -	58	1	2			
21	White's Ford - - -	-	15	3			
22	Works at Meelick - - -	4,964	7	6			
23	Shannon Grove (Counsellor's Ford) - - -	228	7	5			
24	Works at Banagher - - -	2,076	16	9			
26	Leahinch - - -	63	10	9			
27	Derryholmes - - -	693	13	-			
28	Bishop's Island - - -	3	12	-			
29	Garrymore - - -	1	12	-			
31	Shannon Bridge (Improvements at) - - -	1,398	12	3			
32	Clerhaun - - -	14	10	9			
33	Ballynatave - - -	3	19	-			
34	Tullymore Ford - - -	4	16	-			
39	Works at Athlone - - -	14,846	3	9			
40	Lough Ree - - -	-	7	-			
41	Curreen - - -	1	15	5			
42	Lanesborough - - -	6,034	1	5			
43	Kilnacarrow - - -	750	8	10			
45	Erra - - -	-	10	10			
46	Cloonbearlaw - - -	-	9	-			
47	Lodge Cut - - -	1,106	18	5			
49	Cloondrah Canal - - -	-	-	-			
50	Tarmonbarry (the River Course) - - -	25,067	17	9½			
51	Lough Forbes - - -	1	6	2			
52	Clooneen Cox and Cloonfad - - -	89	16	7			
53	Bird Island - - -	3	14	5			
54	Rooskey - - -	370	6	3			
55	Derrycarne - - -	-	18	9			
56	Lough Tap and Skeagh Point - - -	1	15	11			
58	Jamestown Canal - - -	14	16	3			
59	Drumsna - - -	6	7	6			
60	Mount Campbell and Charlestown - - -	2	5	-			
61	Jamestown - - -	24	9	4			
62	Kilbride Deer Park - - -	3	3	10			
63	Doyle's Islands - - -	3	9	7			
64	Cornacoroo - - -	3	9	-			
65	Innishmucker - - -	-	2	6			
66	Grose's Islands - - -	-	13	7			
67	Carrick-on-Shannon - - -	3	17	6			
68	Corriolus Point (dredging) - - -	-	-	4			
70	Hartley - - -	1	3	-			
71	Port - - -	1	5	5			
72	Leitrim - - -	3	17	11			
77	Arigna River, Cut at Mountallen - - -	366	17	11			
80	Dredging Vessels, Barges, &c. - - -	-	-	-			
81	Workshops, Machinery, Contingencies, &c. - - -	1,215	17	5			
82	Scariff River - - -	2,160	9	2½			
83	Improving the Tributaries between Killaloe and Tarmonbarry - - -	290	10	11			
	TOTAL - - - £.				73,606	14	2½
	BALANCE - - - £.				15,545	9	9½

Shannon Commission Office, }
 Custom-house, Dublin. }

H. J. Mason, Accountant.

— No. 3. —

COPY of a RETURN furnished by the Paymaster of Civil Services (Ireland), of the several SUMS remitted to him during the Year ending 31st December 1843, by the TREASURERS of the undermentioned Counties, in Repayment of Advances by the COMMISSIONERS for the Improvement of the River Shannon, pursuant to 2 & 3 Vict. c. 61, and on account of Interest, at the Rate of Four per Cent. per Annum, accruing on said Advances.

COUNTIES.	Particulars of each Payment.		TOTALS.		
	Principal.	Interest. at 4 per Cent. per Annum.	Principal.	Interest.	Principal and Interest.
	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
County of Clare :					
Paid 4 March 1843 - -	630 6 4½	97 13 2½	1,572 15 9	249 19 1	1,822 14 10
- 21 July — - -	942 9 4½	152 5 10½			
County of Galway :					
Paid 22 March 1843 - -	1,861 17 7½	272 14 2½	4,223 7 5½	621 8 6¼	4,844 16 -
- 12 August — - -	2,361 9 10½	348 14 3½			
King's County :					
Paid 11 March 1843 - -	601 3 5½	128 6 2¼	1,396 11 11½	250 7 7½	1,646 19 7
- 31 July — - -	795 8 5½	122 1 5¼			
County of Limerick :					
Paid 23 March 1843 - -	260 4 8½	33 10 3½	625 7 10	89 8 4	714 16 2
- 31 July — - -	365 3 1½	55 18 -½			
County of the City of Limerick :					
Paid 14 August 1843 - -	77 8 7¼	25 12 8½	77 8 7¼	25 12 8½	103 1 4
County of Longford :					
Paid 4 March 1843 - -	277 11 4¼	29 19 7½	775 4 1½	62 15 7½	837 19 9
- 10 July — - -	497 12 9¼	32 15 11¼			
County of Leitrim :					
Paid 4 March 1843 - -	185 9 11½	28 2 6¾	412 7 5½	57 12 3½	469 19 9
- 5 August — - -	226 17 6¼	29 9 8¼			
County of Mayo :					
Paid 17 March 1843 - -	149 7 9¾	22 6 1¼	317 6 6½	49 14 4¾	367 - 11
- 5 August - - -	167 18 8¾	27 8 3½			
County of Roscommon :					
Paid 4 March 1843 - -	1,030 2 4¾	176 15 7½	2,182 9 5	406 12 1	2,589 1 6
- 21 July — - -	1,152 7 -¼	229 16 5¼			
County of Sligo :					
Paid 17 March 1843 - -	- 10 7	- 10 1	8 8 4	- 15 4	9 3 8
- 29 August — - -	7 17 9	- 5 3			
County of Tipperary (South Riding):					
Paid 13 March 1843 - -	253 6 3¼	37 1 -¾	605 11 2	94 17 7	700 8 9
- 24 July — - -	352 4 10¾	57 16 6¼			
County of Tipperary (North Riding):					
Paid 23 March 1843 - -	579 17 9¾	116 11 11¼	1,419 14 -¼	256 9 6¾	1,676 3 7
- 3 August - - -	839 16 2½	139 17 7½			
County of Westmeath :					
Paid 15 March 1843 - -	822 8 9¾	116 12 8¼	1,761 1 6¾	261 10 6¼	2,022 12 1
- 1 August - - -	938 12 9	144 17 10			
TOTAL repaid by Counties - - - £.			15,377 14 2¼	2,427 3 8½	17,804 17 11

COPY of a RETURN furnished by the Paymaster of Civil Services (Ireland), of the several SUMS remitted to him during the Year ended 31st December 1843, by Individuals, in repayment of Advances by the COMMISSIONERS for the Improvement of the River Shannon, pursuant to 2 & 3 Vict. c. 61, and on account of Interest at the rate of 5 per Cent. per Annum, accruing on said Advances.

INDIVIDUALS.	Principal.			Interest at 5 per Cent. per Annum.			Principal and Interest.		
	£.	s.	d.	£.	s.	d.	£.	s.	d.
Earl of Clare, per the Shannon Commissioners, 3d 7 th January 1843 - - - ditto - - - 1st April 1843	459	1	3	10	4	8	469	5	11
C. M. Vandeleur, - - - ditto - - - 25th Oct. 1843	5	19	3	25	13	3	31	12	6
Messrs. Borough - - - ditto - - - 22d Nov. 1843	290	1	3	39	18	5	39	18	5
Ditto - - - ditto - - - 22d Nov. 1843	290	1	3	15	11		290	17	2
TOTAL repaid by Individuals - - - £.	755	1	9	76	12	3	831	14	-

RECAPITULATION.

—	Principal.			Interest.			Principal and Interest.		
	£.	s.	d.	£.	s.	d.	£.	s.	d.
Repaid by counties - - - - -	16,377	14	2 $\frac{3}{4}$	2,427	3	8 $\frac{1}{2}$	17,804	17	11
Repaid by individuals - - - - -	755	1	9	76	12	3	831	14	-
TOTAL - - - £.	16,132	15	11$\frac{3}{4}$	2,503	15	11$\frac{1}{2}$	18,636	11	11

Paymaster of Civil Services Office, }
Dublin Castle, 1st Jan. 1844. }

(signed) T. F. Kennedy.

— No. 4. —

RETURN showing the TOTAL AMOUNT of Advances as LOANS made by the SHANNON COMMISSIONERS to the undermentioned Counties, up to the 31st December 1843, including Interest thereon at the rate of £. 4 per Cent. per Annum, from the Dates of the respective Advances, until the entire shall be paid off by Twelve equal successive Half-yearly Instalments; also the Amounts Received by the Paymaster of Civil Services, Ireland, from the Treasurers of Counties in Repayment of said Loans and Interest; and the Amount still Outstanding on foot of same.

NAMES OF COUNTIES.	Total Advances in the Year 1840 to 1843 inclusive, including Interest, at the Rate of £. 4 per Cent. per Annum, until the entire shall be Paid off by Twelve equal successive Half-yearly Instalments.			Repayments by Counties on Account of Loans.			Amounts still Outstanding and Repayable by Instalments.		
	£.	s.	d.	£.	s.	d.	£.	s.	d.
Limerick - - - - -	6,441	9	2 $\frac{1}{2}$	1,976	10	10	4,464	18	4 $\frac{1}{2}$
Limerick (County of the City) - - -	4,320	12	5 $\frac{1}{2}$	518	14	5	* 3,801	18	- $\frac{1}{2}$
Clare - - - - -	17,924	5	2 $\frac{3}{4}$	3,822	2	7 $\frac{1}{2}$	14,102	2	7 $\frac{1}{2}$
Tipperary (North Riding) - - - - -	14,025	12	10 $\frac{1}{2}$	4,094	14	5	9,930	18	5 $\frac{1}{2}$
Tipperary (South Riding) - - - - -	6,289	1	- $\frac{3}{4}$	2,111	7	8	4,177	13	4 $\frac{1}{2}$
Galway - - - - -	37,646	5	5	9,365	10	7	28,280	14	10
Roscommon - - - - -	27,082	-	7 $\frac{3}{4}$	5,723	3	10	21,358	16	9 $\frac{3}{4}$
King's County - - - - -	14,305	4	3	4,504	6	6	9,800	17	9
Westmeath - - - - -	18,670	19	1 $\frac{1}{2}$	4,683	1	8	13,987	17	5 $\frac{1}{2}$
Longford - - - - -	7,408	14	9 $\frac{1}{2}$	1,793	11	8 $\frac{3}{4}$	5,615	3	- $\frac{1}{2}$
Leitrim - - - - -	8,311	16	1 $\frac{1}{2}$	1,533	19	4	6,777	16	9 $\frac{1}{2}$
Mayo - - - - -	3,112	15	5 $\frac{1}{2}$	934	10	3	2,178	5	2 $\frac{1}{2}$
Sligo - - - - -	322	5	5 $\frac{1}{4}$	306	14	9	15	10	8 $\frac{1}{4}$
TOTALS - - - £.	165,861	2	-$\frac{1}{2}$	41,368	8	7	124,492	13	5$\frac{1}{2}$

Note.—Under the provisions of the 13th section of the Act 2 & 3 Vict. c. 61, the Advances to Counties are to be repaid by twelve half-yearly instalments, and the Amounts in the last Column are in the course of collection under this regulation.

* This item includes an arrear due by the County of the City of Limerick of 633 l. 2 s. 11 $\frac{1}{2}$ d.

Shannon Commission Office, }
Custom-house, Dublin. }

H. J. Mason, Accountant.

— No. 5. —

ACCOUNT of the several Sums Received and Expended by the SHANNON COMMISSIONERS
between 1st January and 31st December 1843.

RENTS AND TOLLS.		£.	s.	d.
RECEIPT:				
To Balance of Account ending 31st December 1842	- - - - -	133	16	9
To Rents:				
Mills, Lands, and other Holdings	- - - - -	711	5	2
Fishing of Weirs	- - - - -	471	4	6
Water Power	- - - - -	96	18	6
Produce of Sales and Hire of Machinery	- - - - -	155	11	6
Repayment of Expense of Wall and Gate at Athlone	- - - - -	17	10	-
		1,452	9	8
To Fines	- - - - -	2	18	-
To Gauging and Weighing Boats (Fees for)	- - - - -	44	15	- $\frac{1}{2}$
To Tolls	- - - - -	1,433	15	11 $\frac{1}{2}$
Wharfage	- - - - -	136	13	2 $\frac{1}{2}$
Quayage	- - - - -	75	10	2
		1,645	19	3 $\frac{1}{2}$
TOTAL RECEIPT - - - £.		3,279	18	9
EXPENDITURE:				
By Salaries and Allowances:				
Engineers, Surveyors, and Inspectors	- - - - -	217	12	10
Clerks	- - - - -	120	14	6
Collectors	- - - - -	499	7	9
Lock-keepers	- - - - -	204	5	5
Water Bailiffs	- - - - -	3	2	-
Gauging and Weighing Boats	- - - - -	37	19	2
		1,083	1	8
By Payments on account of Loans made by the Board of Works to the late Limerick Navigation Company; viz.				
Interest due up to the 31st December 1843	- 533 11 11	533	11	11
Three Instalments of Principal	- - - 520 16 8	520	16	8
		1,054	8	7
By Rent	- - - - -	4	-	-
Taxes	- - - - -	30	-	11
Compensation	- - - - -	101	13	9
Maintenance and Repairs to Canals, Trackways, Lock-gates, Lock-houses, &c.	- - - - -	307	13	8
Miscellaneous Expenses	- - - - -	73	17	7
TOTAL EXPENDITURE - - - £.		2,654	16	2
BALANCE - - - £.		625	2	7

Shannon Commission Office, }
Custom-house, Dublin. }

H. J. Mason, Accountant.

— No. 6. —

GENERAL ABSTRACT, showing the TOTAL RECEIPT and EXPENDITURE on each of the foregoing Accounts, and the Balances at foot of same, on the 31st December 1843.

No. 1.—ESTABLISHMENT.

	£.	s.	d.		£.	s.	d.
To Receipt - - -	2,810	3	9½	By Expenditure - - -	2,819	13	3
To Balance - - -		9	5½				
	<u>£. 2,819</u>	<u>13</u>	<u>3</u>		<u>£. 2,819</u>	<u>13</u>	<u>3</u>

No. 2.—WORKS.

	£.	s.	d.		£.	s.	d.
To Receipt - - -	89,152	3	11¾	By Expenditure - - -	73,606	14	2½
				By Balance - - -	15,545	9	9¼
	<u>£. 89,152</u>	<u>3</u>	<u>11¾</u>		<u>£. 89,152</u>	<u>3</u>	<u>11¾</u>

No. 3.—REPAYMENTS BY COUNTIES AND PROPRIETORS.

	£.	s.	d.
To Receipt - - -	18,636	11	11
	<u>£. 18,636</u>	<u>11</u>	<u>11</u>

No. 4.—ADVANCES AS LOANS TO COUNTIES.

	£.	s.	d.
By Advances - - -	124,492	13	5¼
	<u>£. 124,492</u>	<u>13</u>	<u>5¼</u>

No. 5.—RENTS AND TOLLS.

	£.	s.	d.		£.	s.	d.
To Receipt - - -	3,279	18	9	By Expenditure - - -	2,654	16	2
				By Balance - - -	625	2	7
	<u>£. 3,279</u>	<u>18</u>	<u>9</u>		<u>£. 3,279</u>	<u>18</u>	<u>9</u>

Shannon Commission Office, }
Custom-house, Dublin.

H. J. Mason, Accountant.

SCHEDULE (A.)

COMPARATIVE TABLE showing the TOLLS and WHARFAGE received during the Years 1840 to 1843 inclusive.

STATIONS.	TOLLS.				WHARFAGE.				TOTALS.			
	1840.	1841.	1842.	1843.	1840.	1841.	1842.	1843.	1840.	1841.	1842.	1843.
Limerick - - - -	£. s. d. 822 8 10½	£. s. d. 674 15 0½	£. s. d. 510 14 6½	£. s. d. 400 9 4½	£. s. d. 20 2 8	£. s. d. 23 - 11½	£. s. d. 24 11 2½	£. s. d. 23 1 - 2	£. s. d. 842 11 0½	£. s. d. 607 10 0	£. s. d. 536 5 8½	£. s. d. 522 10 5½
Annaghbeg - - - -	5 11 4½	11 - 1½	46 5 10½	22 4 - ½	4 18 3	8 15 11	21 17 1½	3 5 -	10 0 7½	10 10 -½	08 2 11½	25 9 - ½
Errina - - - -	1 9 9½	3 11 4½	3 5 0	1 2 1½	1 4 0½	1 2 9½	- 19 8	- 8 -	2 14 4	4 14 1½	4 5 2	1 10 1½
O'Brien's Bridge - - - -	16 9 7	20 6 0½	17 17 0½	10 7 5½	7 4 2	11 15 6½	14 10 5½	2 14 8½	23 13 9	32 2 4½	32 17 3	13 2 1½
Cussane - - - -	1 6 9	1 12 8½	27 12 - ½	9 15 10½	- 1 8	- 2 8	- 4 0	- 16 5½	1 8 5	1 15 4½	27 16 6½	10 12 4
Killaloe - - - -	134 6 - ½	308 10 5½	315 8 3½	352 1 3	29 7 2½	46 8 11½	36 10 - ½	37 17 8½	163 13 3	854 10 5½	352 4 4	389 18 11½
Portamna - - - -	160 12 6	108 3 9½	155 1 11½	161 16 6½	11 7 9	14 17 2½	15 17 11½	13 16 10½	181 - 3	213 - 11½	170 10 11	175 13 5
Hamilton's Lock - - - -	3 3 9½	3 19 8½	2 18 5½	2 3 5	- - -	- 7 4½	- 18 5½	- 16 11½	3 3 9½	4 7 1½	3 14 11	3 - 4½
Banagher - - - -	280 - - ½	103 6 10½	93 5 8	91 16 11½	3 13 8½	9 2 1	7 8 2½	5 16 6½	202 13 8½	112 8 11½	100 13 10½	97 13 6
Shannon Harbour - - - -	5 1 5	192 11 11½	167 0 - ½	117 5 8	- - -	- - 4½	- 1 9½	- - 10½	5 1 5	192 12 4	167 7 10½	117 6 6½
Shannon Bridge - - - -	72 8 9½	0 11 3½	3 1 - ½	31 16 10½	3 7 3½	2 0 7½	1 15 7	1 17 1½	75 16 1	9 - 11	4 16 7½	33 13 11½
Athlone - - - -	108 10 2½	115 4 5½	74 5 11½	70 6 3½	34 9 11½	7 11 7½	4 2 2½	7 12 7½	143 - 2	122 16 1	78 8 1½	77 18 10½
Lancashire - - - -	12 7 9½	13 10 3½	21 14 7½	16 9 9½	4 18 11	6 3 3	10 18 11½	7 13 7½	17 0 8½	21 13 6½	22 13 7	24 3 5½
Cloondrah - - - -	19 5 9	17 4 8	12 12 3½	16 3 8½	- 2 2½	- 8 2	- 3 5	- 7 7½	10 7 11½	17 12 10	12 15 8½	16 11 4
Rooskey - - - -	6 3 8½	4 7 5½	4 1 11½	6 7 7½	3 - 5½	1 4 9	1 6 3½	1 10 9	11 4 2½	5 19 9½	5 8 3	8 7 4½
Drumna - - - -	7 16 1½	6 16 2½	8 14 9½	9 4 3½	1 10 - ½	1 16 2½	2 18 9½	2 - 2½	9 12 1½	8 12 4½	11 13 7	11 4 0
Jamestown - - - -	3 11 3½	1 3 2	1 19 4	1 7 5	- 10 - ½	- 8 6½	- 9 -	- 4 4	4 1 4	1 11 8½	2 8 4	1 11 9
Carriek-on-Shannon - - - -	14 8 2½	13 14 1	12 15 8	9 7 5½	17 4 11½	16 6 7½	16 3 9½	11 9 6	31 13 2½	30 - 8½	28 19 5½	20 16 11½
Battle Bridge - - - -	1 2 4	- 13 10½	1 7 2½	- 7 11½	1 10 7½	- 13 2	1 3 8	- 5 -	2 12 11½	1 7 - ½	2 10 10½	- 12 11½
Drumleague - - - -	7 15 9½	4 8 9	2 11 2	4 1 10½	- 8 8	- 1 8	- 8 8	- 1 9½	8 4 5½	4 10 5	2 19 10	4 3 8
TOTAL - - - £.	1,704 - 1½	1,701 13 10½	1,482 18 1½	1,433 15 11½	145 9 1½	154 17 5	163 4 9½	122 5 9½	1,849 9 2½	1,866 11 3½	1,646 2 11	1,556 1 9

C 4

LOWER SHANNON.

STATION.	QUAYAGE.	WHARFAGE.	CRANAGE.	TOTALS.
Querrin Pier* - - - -	£. s. d. 3 5 8	£. s. d. 6 19 8	£. s. d. - - -	£. s. d. 10 5 2
Kilrush Pier - - - -	70 2 2	6 5 -	- - -	76 7 2
Kilteery Pier - - - -	- 19 -	- 10 5	- - -	1 0 5
Kildysart Pier* - - - -	1 3 6	- 12 3½	- - -	1 15 9½
TOTAL - - - £.	75 10 2	14 7 4½	- - -	89 17 6½

* Rates first collected at these piers this year (1843).

ABSTRACT 1843:

Limerick to Drumleague - - - -	£. s. d. 1,556 1 9
Lower Shannon, Quayage and Wharfage - - - -	89 17 0½
TOTAL - - - - £.	1,645 19 3½

H. J. Mason, Accountant.

IMPROVING THE NAVIGATION OF THE SHANNON.

SCHEDULE (B.)

RETURN showing the TONNAGE of the IMPORTS and EXPORTS at the Principal Stations on the River Shannon, from 1st January to 31st December 1841.

ARTICLES.	STATIONS.													TOTALS 1840.	TOTALS 1841.	TOTALS 1841.	TOTALS 1841.
	Limerick.	O'Brien's Bridge.	Killaloe.	Lough Derg, Killaloe end.	Lough Derg, Portunna end.	Portunna.	Banagher.	Shannon Bridge.	Athlone.	Lanesborough.	Rooskey.	Drumosa.	Carrick-on-Shannon.				
LANDED:	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Slates	1,943½	8½	425½	2½	-	89½	204	-	382½	41½	-	6	1	3,165½	3,569½	3,883½	3,280½
Tiles and Bricks	16	1	12½	12	25½	23½	7½	126½	350½	-	-	3	½	578½	360½	717½	380½
Coal	-	138½	426	340½	6	171	240½	13	795	452	-	-	-	2,583½	2,079½	2,830½	4,420½
Iron not made into articles of merchandise.	27½	-	56	39½	1½	40	65½	9	196	59½	5½	20½	24	553½	708	983	75½
Timber of all kinds	37½	26½	329½	112	2	172½	217½	102½	809½	347	5	18½	49½	2,319½	2,319½	2,080	2,380
Hay and Straw	-	265	55	½	-	74	32½	26	-	30	9½	-	-	570	309½	58	450
Ores and Minerals	-	-	-	-	-	5	-	-	1	-	-	-	77½	6	7	17	17
Salt	-	-	4½	26½	-	168½	46½	1½	175½	-	-	-	-	423	303	415½	415½
Marble, foreign or manufactured.	3½	-	20	-	-	½	2½	-	4½	-	-	-	-	31½	60½	76½	20
Manure	-	210½	-	-	98½	747	451½	-	-	120½	34½	-	-	1,662½	3,386½	1,707	970
Lime for building	27	-	1	-	-	-	67	30	-	125	-	-	-	125	356½	246½	100
Building-stone & Flags	-	246	1,258½	79½	-	2½	5	73½	4,358	108½	226	-	18	6,376½	4,031½	1,755	420
Sand and Gravel	3	66½	878½	-	-	-	3	-	-	-	8	116½	-	1,681	1,621½	1,051	600
Turf	1,259½	-	4,891½	-	123	1,525½	340½	256½	586½	582½	329½	29½	1,573½	11,408	12,719½	12,270½	14,140
Grain	1,655½	8	1	½	-	-	-	1½	24½	7½	-	-	-	62½	1,760½	1,843½	2,615
Flour, Meal, Malt, and Starch.	2,862	17	3	-	-	8	-	2½	237½	64½	-	-	-	3,196½	2,605½	3,322½	2,720
Butter	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8½	4	3½
Black Cattle & Horses	5	-	6½	-	-	5½	-	-	-	-	-	-	-	18	14½	11	2
Sheep	1	-	-	-	-	-	10½	-	-	-	-	-	-	11½	16½	15	1
Pigs	13½	-	½	-	-	-	-	-	-	1½	-	-	-	16	281	106½	80
Salted Provisions	½	-	14	10½	-	150½	46	½	134½	14½	½	-	-	381½	491½	507½	270
Potatoes and other Vegetables.	7½	1½	-	1	32½	1	-	51½	72½	½	25	4½	145½	343½	422½	428	112
Groceries	938	-	-	-	107	18½	-	½	-	-	-	-	-	1,064½	1,650½	436½	42
Wines and Spirits	248½	-	½	-	30½	-	-	-	-	-	-	-	-	279	147	210½	160
Porter, Beer, and Ale	470	-	1½	-	41½	½	-	-	-	121½	-	-	-	635½	681½	685	540
Bale-goods, Hardware, and Gen'l Merchandise.	2,077½	31½	168½	49½	247½	445	103½	1½	1,030½	133½	1½	102½	64½	4,516½	4,953½	4,820½	4,780
Tobacco	137½	-	-	-	-	65½	-	-	-	-	-	-	-	202½	161½	212½	67
Military Baggage	86½	-	-	-	12½	-	9½	23	13½	-	-	-	-	145½	14½	86½	180
Machinery	18½	½	144	8	2	36½	90½	58½	3	31½	-	-	-	393½	276½	335	-
TOTALS	11,838½	1,021½	8,697½	683½	730½	3,770	2,063½	778	9,380½	2,005½	645½	300½	2,026	44,547	40,435½	43,405½	43,880
LOADED:																	
Slates	2½	-	10	2,555½	1,908½	-	3	-	-	-	-	-	4½	4,482	4,743	4,467½	4,500
Tiles and Bricks	35½	-	-	-	-	-	18	-	-	-	-	-	-	53½	133½	355	250
Coal	1,146½	-	3	-	-	-	47½	4½	-	-	-	-	-	1,201½	1,123½	1,441	2,250
Iron not made into articles of merchandise.	187½	-	56½	½	-	1½	10	-	4	4	-	-	-	264½	282½	509	380
Timber of all kinds	1,530½	3	57½	35½	8½	7½	200½	½	2½	6½	-	-	5½	1,924½	1,924½	1,878½	3,250
Hay and Straw	12½	-	12	-	18½	33½	3	-	-	-	1½	-	-	79½	71½	167½	70
Ores and Minerals	-	-	282½	-	-	-	-	-	-	-	-	-	-	283½	483½	635	160
Salt	271½	-	1½	-	-	-	-	-	-	5	-	-	-	278½	232½	148	130
Marble, foreign or manufactured.	-	-	39½	-	3	-	-	-	-	-	-	-	-	42½	85	85	50
Manure	640½	105½	-	-	-	32½	-	-	253	-	44	-	78½	1,163	2,068½	1,932	1,620
Lime for building	-	-	-	-	-	-	26½	-	-	-	-	-	-	26½	222½	102	250
Building-stone & Flags	81	-	1	-	-	-	94½	1	-	-	-	-	-	201½	744½	1,079½	720
Sand and Gravel	3	125½	3	65½	-	-	408	-	-	6	-	-	-	706½	4,931½	796½	720
Turf	4½	208	½	2,573½	239½	1,793½	7	-	-	18	2½	-	-	4,846½	4,922½	4,829	1,620
Grain	1,919½	186	567	686	1½	2,237½	440½	26½	904	650½	-	501½	42½	8,253½	8,594½	7,475½	7,250
Flour, Meal, Malt, and Starch.	817½	1,211½	-	116½	952½	53½	402	1	1,358	846½	-	-	2½	5,761	5,138	7,327½	4,260
Butter	158	-	1½	-	4	2½	-	-	-	-	-	-	-	166½	151	191	100
Black Cattle & Horses	68½	-	90½	-	1½	2	-	-	-	-	-	-	-	208	310½	154	200
Sheep	9½	-	43	-	2	5½	-	-	44½	5	-	-	-	65½	67½	147	60
Pigs	458½	-	24½	-	-	10½	6	-	23½	-	-	-	-	532	298½	168	130
Salted Provisions	380½	-	½	-	46½	1½	-	-	60½	-	-	-	-	489	411½	656	340
Potatoes and other Vegetables.	11	-	1½	-	4½	-	5½	2	51½	65½	178½	-	8½	328½	481	326	240
Groceries	1	-	-	-	-	3½	-	-	-	-	-	-	-	4½	-	-	11½
Wines and Spirits	-	-	-	-	-	4	-	-	-	-	-	-	-	4	-	-	11½
Porter, Beer, and Ale	-	-	1	-	-	-	-	-	-	-	-	-	-	1	-	-	11½
Bale-goods, Hardware, and Gen'l Merchandise.	1,551½	½	57½	2½	90½	102½	20½	½	427	1½	½	4	5½	2,355	2,470	2,241½	3,170
Tobacco	5½	-	-	-	3	-	-	-	-	-	-	-	-	8½	10½	-	150
Military Baggage	75½	-	-	-	½	-	21	-	18	-	-	-	-	115	37	71½	100
Machinery	8	46½	197½	-	-	1	86½	-	-	5½	-	5½	-	350	139½	80	100
TOTALS	9,396½	1,886½	1,451½	6,036	3,216½	4,424½	1,981½	39½	3,156½	1,604½	227½	601	178	34,198½	39,880½	37,335½	31,120

H. J. Mason, Accountant.

SCHEDULE (C.)

RETURN showing the AMOUNT OF TRAFFIC passing to and from the River *Shannon*, through the Grand and Royal Canals, from 1st January to 31st December 1843.

ARTICLES.	From Canals to River Shannon.			From River Shannon to Canals.			
	Grand Canal.	Royal Canal.	TOTALS.	Grand Canal.	Royal Canal.	TOTALS.	
	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	
Slates - - - - -	61	35 $\frac{1}{2}$	96 $\frac{1}{2}$	1,149 $\frac{3}{4}$	103	1,252 $\frac{3}{4}$	
Tiles and bricks - - - - -	461 $\frac{1}{2}$	3	464 $\frac{1}{2}$	39 $\frac{1}{2}$	-	39 $\frac{1}{2}$	
Coal - - - - -	1,179 $\frac{3}{4}$	346 $\frac{1}{2}$	1,526	8 $\frac{3}{4}$	21 $\frac{1}{2}$	30 $\frac{1}{4}$	
Iron not made into articles of merchandise	191	87 $\frac{3}{4}$	278 $\frac{3}{4}$	61 $\frac{1}{4}$	-	61 $\frac{1}{4}$	
Timber of all kinds - - - - -	443 $\frac{1}{2}$	389 $\frac{1}{4}$	832 $\frac{3}{4}$	506 $\frac{3}{4}$	-	506 $\frac{3}{4}$	
Hay and straw - - - - -	10 $\frac{1}{2}$	3	13 $\frac{1}{4}$	305 $\frac{1}{4}$	-	305 $\frac{1}{4}$	
Ores and minerals - - - - -	5	-	5	282 $\frac{1}{4}$	-	282 $\frac{1}{4}$	
Salt - - - - -	179	33	212	57	-	57	
Marble, foreign or manufactured - - - - -	23	-	23	34 $\frac{1}{2}$	-	34 $\frac{1}{2}$	
Manure - - - - -	437 $\frac{3}{4}$	28 $\frac{3}{4}$	466 $\frac{1}{2}$	-	-	-	
Lime for building - - - - -	25	-	25	-	-	-	
Building stone and flags - - - - -	15	-	15	$\frac{1}{2}$	6	6 $\frac{1}{4}$	
Sand and gravel - - - - -	-	-	-	3	-	3	
Turf - - - - -	891 $\frac{3}{4}$	-	891 $\frac{3}{4}$	26 $\frac{1}{4}$	-	26 $\frac{1}{4}$	
Grain - - - - -	40 $\frac{1}{2}$	-	40 $\frac{3}{4}$	3,857 $\frac{1}{2}$	1,468	5,325 $\frac{1}{2}$	
Flour, meal, malt, and starch - - - - -	306 $\frac{3}{4}$	-	306 $\frac{3}{4}$	3,691 $\frac{1}{2}$	775	4,466 $\frac{1}{2}$	
Butter - - - - -	-	-	-	124 $\frac{1}{2}$	-	124 $\frac{1}{2}$	
Black cattle and horses - - - - -	16 $\frac{1}{2}$	-	16 $\frac{1}{4}$	201 $\frac{1}{4}$	-	201 $\frac{1}{4}$	
Sheep - - - - -	1	-	1	57 $\frac{3}{4}$	-	57 $\frac{3}{4}$	
Pigs - - - - -	1 $\frac{1}{4}$	-	1 $\frac{1}{4}$	517	-	517	
Salted provisions - - - - -	139 $\frac{1}{4}$	18 $\frac{3}{4}$	158	243 $\frac{1}{4}$	-	243 $\frac{3}{4}$	
Potatoes and other vegetables - - - - -	35	-	35	66	303 $\frac{1}{2}$	369 $\frac{1}{4}$	
Groceries - - - - -	-	-	-	-	-	-	
Wine and spirits - - - - -	-	-	-	-	-	-	
Porter, beer, and ale - - - - -	-	-	-	-	-	-	
Bale-goods, hardware, and general merchandise.	6,177 $\frac{3}{4}$	246 $\frac{1}{2}$	6,424 $\frac{1}{2}$	2,192	6 $\frac{1}{4}$	2,198 $\frac{3}{4}$	
Tobacco - - - - -	-	-	-	-	-	-	
Military baggage - - - - -	237 $\frac{1}{4}$	-	237 $\frac{1}{4}$	93 $\frac{3}{4}$	-	93 $\frac{3}{4}$	
Machinery - - - - -	295 $\frac{1}{4}$	114	409 $\frac{1}{2}$	13 $\frac{3}{4}$	-	13 $\frac{3}{4}$	
TOTALS - - -	11,173 $\frac{1}{4}$	1,305 $\frac{3}{4}$	12,479	13,532 $\frac{1}{4}$	2,683 $\frac{1}{2}$	16,215 $\frac{3}{4}$	
Comparative Return of Traffic	Yrs.						
passing to and from the River	1840	12,877 $\frac{3}{4}$	1,389 $\frac{1}{4}$	14,267	14,548	1,919	16,721
Shannon through the Grand	1841	13,250 $\frac{1}{2}$	1,741	14,991 $\frac{1}{2}$	15,329 $\frac{1}{2}$	1,924 $\frac{3}{4}$	17,254
and Royal Canals - - -	1842	12,823 $\frac{1}{2}$	1,362	14,185 $\frac{1}{2}$	13,354 $\frac{1}{4}$	3,118 $\frac{1}{4}$	16,472 $\frac{1}{2}$
	1843	11,173 $\frac{1}{4}$	1,305 $\frac{3}{4}$	12,479	13,532 $\frac{1}{4}$	2,683 $\frac{1}{2}$	16,215 $\frac{3}{4}$

H. J. Mason, Accountant.

SCHEDULE (D.)

RETURN showing the TONNAGE of the IMPORTS and EXPORTS at the Piers on the *Lower Shannon*,
from 1st January 1843 to 31st December 1843.

ARTICLES.	STATIONS.				TOTALS.
	Querrin Pier.	Kilrush Pier.	Kilteery Pier.	Kildysart Pier.	
	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>
LANDED:					
Slates - - - - -	-	2 $\frac{1}{4}$	-	-	2 $\frac{1}{4}$
Tiles and bricks - - - - -	2	4 $\frac{3}{4}$	-	-	6 $\frac{3}{4}$
Coal - - - - -	-	347 $\frac{1}{4}$	-	-	347 $\frac{1}{4}$
Iron not made into articles of merchandise.	1	67	-	-	68
Timber of all kinds - - - - -	7	329	-	-	336
Hay and straw - - - - -	-	3 $\frac{1}{2}$	1	-	4 $\frac{1}{2}$
Ores and minerals - - - - -	-	-	-	-	-
Salt - - - - -	-	418 $\frac{3}{4}$	-	-	418 $\frac{3}{4}$
Marble, foreign or manufactured - - - - -	-	-	-	-	-
Manure - - - - -	374	-	252	64	690
Lime for building - - - - -	30	80	-	-	110
Building stone and flags - - - - -	-	23	-	-	23
Sand and gravel - - - - -	-	1,107	-	-	1,107
Turf - - - - -	-	38 $\frac{1}{2}$	-	-	38 $\frac{1}{2}$
Grain - - - - -	-	119 $\frac{1}{4}$	-	-	119 $\frac{1}{4}$
Flour, meal, malt, and starch - - - - -	-	296 $\frac{1}{2}$	-	-	296 $\frac{1}{2}$
Butter - - - - -	-	$\frac{1}{2}$	-	-	$\frac{1}{2}$
Black cattle and horses - - - - -	-	180 $\frac{1}{4}$	$\frac{3}{4}$	-	181
Sheep - - - - -	-	1	$\frac{1}{2}$	-	1 $\frac{1}{2}$
Pigs - - - - -	-	46 $\frac{1}{4}$	$\frac{3}{4}$	-	47
Salted provisions - - - - -	-	279	-	-	279
Potatoes and other vegetables - - - - -	-	27	-	-	27
Groceries - - - - -	-	83 $\frac{1}{2}$	-	-	83 $\frac{1}{2}$
Wine and spirits - - - - -	-	89 $\frac{1}{4}$	-	-	89 $\frac{1}{4}$
Porter, beer, and ale - - - - -	-	31	-	-	31
Bale-goods, hardware, and general merchandise.	2	367	-	-	369
Tobacco - - - - -	-	-	-	-	-
Military baggage - - - - -	-	-	-	-	-
Machinery - - - - -	-	-	-	-	-
TOTALS - - - - -	416	3,941 $\frac{1}{2}$	255	64	4,676 $\frac{1}{2}$
LOADED:					
Slates - - - - -	-	-	-	-	-
Tiles and bricks - - - - -	-	1	-	-	1
Coal - - - - -	-	$\frac{1}{4}$	54 $\frac{1}{2}$	-	54 $\frac{3}{4}$
Iron not made into articles of merchandise.	-	39	-	-	39
Timber of all kinds - - - - -	-	53 $\frac{1}{4}$	-	-	53 $\frac{1}{4}$
Hay and straw - - - - -	-	-	-	5 $\frac{1}{2}$	5 $\frac{1}{2}$
Ores and minerals - - - - -	-	-	-	-	-
Salt - - - - -	-	43 $\frac{1}{4}$	-	-	43 $\frac{1}{4}$
Marble, foreign or manufactured - - - - -	-	-	-	-	-

ARTICLES.	STATIONS.				TOTALS.
	Querrin Pier.	Kilrush Pier.	Kilteery Pier.	Kildysart Pier.	
LOADED— <i>continued.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>
Manure - - - - -	—	—	—	—	—
Lime for building - - - - -	- - -	20	- - -	- - -	20
Building stone and flags - - - - -	- - -	1	- - -	- - -	1
Sand and gravel - - - - -	- - -	16	- - -	- - -	16
Turf - - - - -	2,780	1	- - -	- - -	2,781
Grain - - - - -	1	6,045 $\frac{1}{2}$	- - -	6 $\frac{1}{2}$	6,052 $\frac{1}{2}$
Flour, meal, malt, and starch - - - - -	- - -	13 $\frac{1}{4}$	- - -	- - -	13 $\frac{1}{4}$
Butter - - - - -	- - -	109	- - -	- - -	109
Black cattle and horses - - - - -	- - -	51 $\frac{1}{2}$	- - -	6 $\frac{1}{2}$	57 $\frac{1}{2}$
Sheep - - - - -	- - -	3 $\frac{1}{2}$	- - -	7 $\frac{3}{4}$	11
Pigs - - - - -	1 $\frac{1}{2}$	786	- - -	3 $\frac{3}{4}$	791 $\frac{1}{4}$
Salted provisions - - - - -	- - -	64 $\frac{1}{2}$	- - -	- - -	64 $\frac{1}{2}$
Potatoes and other vegetables - - - - -	87 $\frac{1}{2}$	7 $\frac{3}{4}$	- - -	- - -	95 $\frac{1}{4}$
Groceries - - - - -	—	—	—	—	—
Wine and spirits - - - - -	- - -	6 $\frac{3}{4}$	- - -	- - -	6 $\frac{3}{4}$
Porter, beer, and ale - - - - -	- - -	1	- - -	- - -	1
Bale-goods, hardware, and general merchandise.	- - -	257 $\frac{1}{4}$	- - -	3 $\frac{3}{4}$	258
Tobacco - - - - -	—	—	—	—	—
Military baggage - - - - -	—	—	—	—	—
Machinery - - - - -	—	—	—	—	—
TOTALS - - - - -	2,870	7,520	54 $\frac{1}{2}$	30 $\frac{1}{2}$	10,475

H. J. Mason, Accountant.

SCHEDULE (E.)

RETURN showing the Number of PASSENGERS that Embarked at the undermentioned Places on the River *Shannon*, by the City of Dublin Steam Packet Company's Boats, during the Year 1843, from 1st January to 31st December 1843.

MONTHS.	Limerick up.	Killaloe.	Williams-town.	Por-tumna.	Ba-nagher.	Shannon Harbour.	Athlone.	TOTALS.
	<i>Number.</i>	<i>Number.</i>	<i>Number.</i>	<i>Number.</i>	<i>Number.</i>	<i>Number.</i>	<i>Number.</i>	<i>Number.</i>
January - - -	373 $\frac{1}{2}$	165 $\frac{1}{2}$	49	101 $\frac{1}{2}$	95	200	15	999 $\frac{1}{2}$
February - - -	278 $\frac{1}{2}$	171	25	80	87	253 $\frac{1}{2}$	17	912
March - - -	391 $\frac{1}{2}$	227	57	96 $\frac{1}{2}$	95	320	42	1,229
April - - -	403 $\frac{1}{2}$	238	43	117 $\frac{1}{2}$	145 $\frac{1}{2}$	275	38	1,260 $\frac{1}{2}$
May - - -	508 $\frac{1}{2}$	264 $\frac{1}{2}$	51	159 $\frac{1}{2}$	123	296 $\frac{1}{2}$	18	1,421
June - - -	374	183	40 $\frac{1}{2}$	93 $\frac{1}{2}$	135 $\frac{1}{2}$	375 $\frac{1}{2}$	26	1,228
July - - -	495 $\frac{1}{2}$	277	74	163 $\frac{1}{2}$	124 $\frac{1}{2}$	491	19	1,644 $\frac{1}{2}$
August - - -	487	303	47	163	143 $\frac{1}{2}$	412	73	1,628 $\frac{1}{2}$
September - - -	455	286 $\frac{1}{2}$	59	178	159 $\frac{1}{2}$	349 $\frac{1}{2}$	19	1,506 $\frac{1}{2}$
October - - -	517 $\frac{1}{2}$	327 $\frac{1}{2}$	55 $\frac{1}{2}$	196	150	359 $\frac{1}{2}$	13	1,619
November - - -	327 $\frac{1}{2}$	213 $\frac{1}{2}$	59	141	145	306 $\frac{1}{2}$	7 $\frac{1}{2}$	1,200
December - - -	268	145	36	120 $\frac{1}{2}$	93	262	10	934 $\frac{1}{2}$
TOTALS - - -	4,880	2,801 $\frac{1}{2}$	596	1,610 $\frac{1}{2}$	1,496 $\frac{1}{2}$	3,901	297 $\frac{1}{2}$	15,583

Note.—The fractions introduced in the above Return represent children.

H. J. Mason, Accountant.

SCHEDULE (F.)

TABLE showing the AVERAGE NUMBER of PERSONS employed on the several WORKS, with the Periods of Employment, during the Year 1843.

NAME OF WORK.	PERIOD.	Number of Working days.	Average Number of Persons employed Daily.	Equivalent Number of Days' Work.
Kilrush - - - -	From 2 Jan. to 2 December - -	290	40	11,462
Ballylongford - - - -	- 4 Sept. to 30 December - -	101	17	1,714
Clare - - - -	- 17 July to 30 December - -	140	59	8,320
Athlunkard - - - -	- 13 Mar. to 28 October - -	197	22	4,341
Castleroy - - - -	- 17 April to 11 November - -	166	44	7,293
World's End - - - -	- 27 Mar. to 28 October - -	183	23	4,223
Parteen - - - -	- 2 Jan. to 30 December - -	312	84	26,427
Limerick Navigation - - - -	- 23 Jan. to 18 November - -	258	4	918
Killaloe - - - -	- 2 Jan. to 30 December - -	312	117	36,588
Scarriff - - - -	- 13 Mar. to 2 December - -	226	132	29,825
Meelick - - - -	- 2 Jan. to 30 December - -	312	271	84,529
Banagher - - - -	- 2 Jan. to 30 December - -	312	280	87,516
Inniscagh - - - -	- 6 Mar. to 11 March - -	6	155	930
Derryholmes - - - -	- 27 Feb. to 11 November - -	227	92	20,937
Shannon Bridge - - - -	- 13 Feb. to 30 December - -	274	73	20,140
Athlone - - - -	- 2 Jan. to 30 December - -	312	412	128,655
Lecarrow - - - -	- 2 Jan. to 30 December - -	312	18	5,589
Lanesborough - - - -	- 20 Feb. to 30 December - -	266	252	67,175
Kilnacarrow - - - -	- 29 May to 30 December - -	183	132	24,016
Lodge Cut - - - -	- 29 May to 28 October - -	131	251	32,864
Tarmonbarry - - - -	- 20 Feb. to 30 December - -	266	206	54,791
Mount Allen - - - -	- 7 Aug. to 28 October - -	72	37	2,707
Dredging { Victoria Vessels. { Albert { Prince	- 2 Jan. to 30 December - -	312	12	3,648
	- 2 Jan. to 30 December - -	312	13	3,989
	- 27 Mar. to 30 December - -	240	12	2,781
TOTAL - - -		312	2,152	671,378

E. Hornsby, Secretary.

SCHEDULE (G.)

RETURN of WORK performed by the *Victoria*, *Albert*, and *Prince* Dredgers, from 1st January to 31st December 1843.

NAME of DREDGER.	Names of Works on which Employed.	Number of Days on which Dredging was done.	Number of Men employed on Dredging Operations.	Number of Cubic Yards Dredged.	Average Quantity Dredged each Day.	Description of Material Dredged.
Victoria	Meelick - - - -	8	193	1,069	134	gravel.
	Innishirkeigh - - - -	15	231	1,354	90	ditto.
	Garry Castle - - - -	1	179	94	94	large stones.
	Illanadraholla - - - -	17	280	1,227	72	gravel.
	Shannon Grove - - - -	14	248	1,685	120	ditto.
	Counsellor's Ford - - - -	40	630	5,011	125	ditto.
	Lusmagh - - - -	2	21	176	88	ditto.
	Cogran - - - -	3	52	40	13	ditto and large stones.
	Esker - - - -	13	228	1,184	91	ditto.
Banagher - - - -	108	1,586	8,916	83	ditto and large stones.	
Total for the Victoria Dredger - - -		221	3,648	20,756	94	
Albert	Derryholmes - - - -	166	2,939	14,132	85	gravel and large stones.
	Garrymore - - - -	49	1,050	6,446	131	ditto - - ditto.
Total for the Albert Dredger - - -		215	3,989	20,578	95	
Prince	O'Brien's Bridge - - - -	7	118	486	69	gravel.
	Scarriff - - - -	79	2,066	11,905	150	ditto, marl, and peaty clay.
	Derry Island - - - -	14	311	106	8	large stones.
	Banagher - - - -	17	286	577	34	gravel and clay dams.
Total for the Prince Dredger - - -		117	2,781	13,074	112	
Total for the Three Dredgers - - -		553	10,418	54,408	98	

E. Hornsby, Secretary.

SCHEDULE (H.)

TABLE showing the QUANTITIES of MATERIALS delivered on the Works from the 1st January to the 31st December 1843.

NAMES OF WORKS.	STONE.							TIMBER.			IRON.		Roman Cement.	Concrete.	Puddle.	Lime.	Coals.	Turf.	Patent Felt.	Pig Lead.	Gun- powder.	Patent Paze.	Mooring Rings.
	Fair Dressed Ashlar.	Rough Ashlar.	Rubble Masonry.	Rubble Stone.	Lime Stone.	Pitching or Paving.	Mooring Posts.	Foreign.	Native.	Planks.	Wrought.	Cast.											
	Cube feet.	Cube feet.	Cube yds.	Tons.	Tons.	Superfic. yards.	No.	Cube feet.	Cube feet.	Lineal feet.	Cwt.	Tons.											
Kilrush	14,000	14,020	700	400	30	742	6	-	-	-	-	-	18	180	-	60	12	130	-	-	-	-	4
Ballylongford	881	569	19	133	60	-	-	601	10	50	50	-	-	-	16	20	-	9	-	-	-	-	-
Clare	2,104	11,114	-	96	60	-	-	-	-	1,080	60	2	-	-	-	20	-	-	-	-	-	432	78
Athlunkard	-	292	79	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
World's End	-	600	342	1,548	-	706	-	648	-	-	14	-	-	-	-	-	-	-	-	-	-	-	-
Parteen	68	943	324	-	-	1,326	-	2,640	442	8,100	87	-	-	-	-	210	8	3,806	-	-	966	204	-
Limetick Navigation	-	-	-	-	-	-	-	-	-	-	17	10	-	-	-	-	-	-	-	-	-	-	-
Killaloe	194	14,070	936	-	-	1,310	-	3,848	-	-	161	10	8	-	-	931	-	-	-	-	1,350	105	-
Searriff	-	-	570	-	-	2,000	-	-	-	-	-	-	-	-	-	-	-	800	-	-	600	82	-
Meelick	58,202	24,910	1,988	250	1,650	1,187	14	1,200	630	-	420	408	-	44	464	1,100	70	8,630	1	90	5,000	700	-
Banagher	65,357	3,022	2,091	957	720	130	9	960	390	4,440	340	80	1	148	409	480	260	12,600	1	30	4,600	644	-
Derryholmes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,147	-	-	2,240	330	-
Shannon Bridge	807	12,440	65	-	-	21	-	-	-	-	-	-	-	-	11	-	-	-	-	-	125	31	-
Athlone	80,462	25,861	1,804	2,846	191	748	-	65,742	10,630	4,320	1,264	88	1	-	2,977	1,401	216	5,324	-	15	2,418	86	-
Lecarrow	-	525	376	-	19	1,100	4	-	-	-	317	-	-	-	286	-	-	-	-	-	-	-	-
Lanesborough	13,280	27,797	1,311	-	50	20	4	8,000	3,400	5,000	70	-	-	2	424	3,500	30	1,860	-	-	80	12	-
Kilnacarrow	-	-	-	-	-	-	-	-	300	-	10	-	-	-	-	2	50	-	-	-	-	-	-
Lodge Cut	-	-	-	-	-	-	-	100	1,014	8,162	25	2	-	-	-	20	414	-	-	-	825	210	-
Tarmonbarry	6,116	11,558	698	1,400	100	1,515	2	3,737	4,872	23,500	85	50	-	-	198	700	163	6,510	-	-	9,296	700	-
Mount Allen	-	-	154	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
£.	250,008	147,730	12,018	7,720	2,880	11,314	39	87,476	21,088	54,748	2,920	650	26	374	4,439	8,708	781	42,280	2	135	27,932	3,242	4

E. Hornsby, Secretary.

SCHEDULE (I.)

RETURN of the Quantity of DREDGING and EXCAVATION, also of the Length of DAMS enclosing the Parts excavated, and of the Number and Description of ENGINES used on the WORKS, from the 1st January to 31st December 1843.

NAMES of WORKS.	Dredging.	Excavation.		Total Quantity of Dredging and Excavation.	Length of Dams enclosing the parts Excavated	Number of Engines.	Description of Engines.	Horse Power.	Number of Pumps.	Description and Dimensions of PUMPS.	Maximum Quantity of Water discharged per Minute.
	Clay, Gravel, and Stones.	Clay and Gravel.	Rock.								
Ballylongford	-	-	587	587	-	-	-	-	-	-	(a)
Clare	-	-	3,611	5,969	-	-	-	-	-	-	(b)
Athlunkard	-	-	6,162	6,162	-	-	-	-	-	-	(c)
Castle Troy	-	-	10,212	10,212	117	-	-	-	-	-	(d)
World's End	-	-	296	296	-	-	-	-	-	-	(e)
Parteen	-	-	6,133	11,219	260	1	-- Steam-engine, high pressure.	8	4	-- Two 10 inches diameter, and two 14 inches diameter.	1,969
O'Brien's Bridge	486	-	-	486	-	-	-- Steam-dredger, high pressure.	-	-	-	-
Killaloe	-	-	25,626	25,626	-	-	-	-	-	-	-
	-	-	21,820	24,437	100	1	-- Steam-engine, high pressure.	6	2	7 inches diameter	233
Scarriff	-	-	-	-	-	-	-	2	2	-- Chain pumps, buckets 10 by 4½ inches.	3,000
	11,905	-	-	11,905	-	1	-- Steam-dredger, high pressure.	8	-	-	-
Derry Island	106	-	-	106	-	-	-- Steam-dredger, high pressure.	-	-	-	-
Meelick	-	-	39,841	39,841	516	1	Water-wheel	3	-	-	662
From Meelick to Banagher, in- clusive.	21,332	-	-	21,332	-	1	Steam-dredger	-	-	-	-
Banagher	-	-	11,132	33,070	715	1	Ditto condensing -- Steam-engine, high pressure.	12	10	-- Two pumps 10¾ inches diameter, three 9 inches diameter, one 8 inches dia- meter, two 7 inches dia- meter, one 18 inches by 14 inches, and one 13 inches by 13 inches.	2,056
Inniscagh	-	-	1,420	1,420	115	-	-	-	-	-	-
	-	-	9,210	14,078	500	2	-- Steam-engines, high pressure.	10 and 4	9	-- Two pumps 14 inches diameter, and five 12 inches diameter, two pumps 10 inches diameter.	2,438
Derryholmes	-	-	-	-	-	-	-	-	6	-- Wooden pumps, two 13 inches by 8 inches, two 7 inches by 7 inches, and two 6½ inches by 6½ inches.	-
	14,132	-	-	14,132	-	1	-- Steam-dredger, condensing.	12	-	-	-
Garrymore - Shannon Bridge	6,446	-	-	6,446	-	-	-	-	-	-	-
	-	-	19,014	19,014	340	1	-- Steam-engine, high pressure.	10	8	-- One pump 14 inches diameter, two 13 inches diameter, two 12 inches diameter, and one 9 inches diameter, with two wooden pumps 16 inches by 16 inches, and 13 inches by 13 inches.	2,188
Athlone - Bridge	-	-	2,670	2,670	102	1	-- Steam-engine, high pressure.	12	4	-- Two pumps 12 inches diameter, and two wooden pumps 12 inches square each.	3,000
Athlone - Lock	-	-	16,529	16,529	250	-	-	-	4	Chain pumps	1,000
	2,300	-	-	2,300	-	-	-	-	-	-	-
Locarrow	-	-	2,846	2,846	-	-	-	-	-	-	-
	1,850	-	-	1,850	-	-	-	-	-	-	-
Lanesborough	-	-	61,040	61,200	825	1	-- Steam-engine, high pressure.	6	2	-- Two pumps 14 inches diameter.	1,031
Kilnacarrow	-	-	18,237	18,237	250	-	-	-	3	-- Chain pumps; the buckets of two of the pumps are 11 inches by 5 inches, and of the third 9 inches by 4½ inches.	1,875
Lodge Cut - Tarmenbarry	-	-	24,722	24,722	1,086	1	Horse gin	2	3	Pumps 7 inches diameter	180
	-	-	19,096	29,106	1,213	1	-- Steam-engine, high pressure.	8	2	Pumps 14 inches diameter	800
Mount Allen	-	-	15,874	15,874	-	-	-	-	-	-	(g)
TOTAL	58,557	316,087	47,037	421,681	6,389	14	-	115	59	-	19,472

- (a) The excavation was for the foundation of the wharf wall.
 (b) Ditto - - - - ditto.
 (c) Removal of dams and spoil.
 (d) Deepening the bed of River, and removing dams and spoil.
 (e) Forming roadway and weir.
 (f) Deepening the bed of the River.
 (g) Forming a new course for the Arigna River.

E. Hornsby, Secretary.

SCHEDULE (K.)

SHOWING the Number and Description of the MAPS defining the JURISDICTION of the COMMISSIONERS, at the undermentioned Works erected by them, between *Limerick* and the Sea.

Letter of Map.	EXTENT OF RIVER COURSE COMPRISED ON MAP.	Page in Minute-Book relating to Boundary.
A.	Map of part of the Shannon at Ballylongford Quay, in the county of Kerry - - - - -	310 Vol.
B.	Map of part of the Shannon at Querrin, in the county of Clare -	"
C.	Map of part of the Shannon at Kilrush, in the county of Clare -	"
D.	Map of part of the River Shannon at Kiltteery, in the county of Limerick - - - - -	"
E.	Map of part of the River Shannon at Kildysart, in the county of Clare - - - - -	"
F.	Map of part of the River Fergus at Clare, in the county of Clare - - - - -	"

(signed) *E. Hornsby,*
Secretary.

SCHEDULE (L.)

LETTER received from Mr. *Barrington*, Crown Solicitor, relative to the Alteration in the Proportions of the Grand Jury Assessments to be contributed by the County and the County of the City of *Limerick*.

SHANNON PRESENTMENT.

Sir, Limerick, 5 March 1843.

I BEG to inform you that, in accordance with the Act (under the authority of which the liberties were severed from the Borough of Limerick) an inquiry was held to arrange in what proportion the debts due by the county of the city of Limerick should be borne by the borough and the parts of the liberties now attached to the county; and it was decided that one-fifth should be borne by the borough, and the remaining four-fifths should be paid by the county.

The grand jury of this city will not present any further sum than one-fifth of the sum required at this assizes, and the judge will not call on them to do more.

I have, therefore, to request you will inform me whether I shall accept a presentment for the one-fifth, or whether the entire sum shall be allowed to remain over until next assizes, when new certificates can be issued in the proportions in which the county and city are liable.

Edw. Hornsby, Esq.
Sec. Shannon Commission.

I am, &c.
(signed) *Mat. Barrington,*
Crown Sol.