

SHANNON NAVIGATION.

NINTH 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, 13 July 1848.

TO THE LORDS COMMISSIONERS OF HER MAJESTY'S TREASURY.

MAY IT PLEASE YOUR LORDSHIPS,

WE beg to submit this our Ninth Annual Report on the Shannon Navigation Works, under 2 & 3 Vict. cap. 61.

LOWER SHANNON, BETWEEN LIMERICK AND THE SEA.

In our Report of last year we mentioned that the whole of the works situate within the tide-way of the river below the city of Limerick, consisting of several piers and harbours, all of which have been completed, with the exception of the new harbour at Foynes, commenced within the last year, and the estimate for the construction of which amounts to 8,000 *l.*, one half to be contributed by the proprietor, Lord Monteaigle, and the remainder by the public, under the Act.

The works originally contemplated at this place, and which were recommended by the Commissioners of Inquiry, consisted of a landing quay, situated on the west side of the narrow and deep channel between Foynes Island and the main land, but with your Lordships' approval, dated the 3d day of October 1846, the site of the harbour was changed to the front of Foynes village, a pier placed at right angles to the shore, and a boat-slip being substituted for the landing quay. By this arrangement an area of nearly two acres will be enclosed, in which vessels can find shelter in rough weather, and along the pier and slip there will be a depth of 10 feet at low water spring-tides, and of 27 feet at high water.

Considerable progress has already been made both in the excavation and masonry; the slip and landing quay have been completed, and 100 feet in length of the main pier has been founded and brought up to the level of low water.

The stone has been procured from the neighbouring (admirable) limestone quarry of Foynes, which can supply material of any scantling required; and in consequence, the work, as far as completed, is very substantial, and has been executed in a satisfactory manner.

This work is being carried on under the immediate superintendence of the engineers and overseers of the Board, without the intervention of a contractor.

Tide works are liable to so many casualties, such as slipping of dams, unexpected difficulties in foundations, &c., that frequent alterations of a trifling nature become unavoidable in the carrying out of the work, each of which is taken advantage of by a contractor, who founds upon them a bill of extras, frequently difficult to be dealt with. Such having been the case on all the Lower Shannon works, and having confidence in the judgment and zeal of our own officers, we entrusted the execution of the works to them, and we have every reason to be satisfied with the result as far as it has gone.

There has been 9,000 cubic feet of ashlar set, and 1,200 yards of masonry built, also about 25,000 cubic yards of excavation removed, and constructed into an outer dam.

SHANNON NAVIGATION, FROM LIMERICK TO KILLALOE,
15 MILES.

No alterations of importance have been made during the last year in this part of the navigation, which consists partly of a still-water canal, with 10 locks, and partly of the river, rendered navigable by weirs and the removal of shoals. The works have been kept in repair out of the tolls derived from the traffic on this part of the navigation.

MIDDLE SHANNON, FROM KILLALOE TO TARMONBARRY,
85 MILES.

This important division of the navigation comprehends a length of 85 miles, and includes the great inland lakes of Lough Derg and Lough Ree, and, with the exception of the removal of stanks or dams, and some dredging and excavation at Athlone, the works may be considered as nearly complete, at least nothing of importance remains that may not be effected at leisure by the use of our own powerful steam dredgers, which will remove all such impediments as they proceed upwards from Shannon Bridge to Tarmonbarry.

The deepening of the river course, by the removal of the numerous shoals between Lough Derg and Lough Ree, has been a work of great difficulty, and of much greater cost than had been originally contemplated.

The reports of our engineers, from which the estimates were made, were founded on the results given by borings made in the bed of the river, at the different points, and in every instance the shoals were considered as being capable of being removed by dredging with powerful machinery and suitable tackle of every kind, which were accordingly supplied; but on trial it was found, that although the surface of the greater number of the shoals was comparatively soft and free, and capable of being dredged, that beneath it the mass consisted either of solid limestone rock, or of a conglomerate, composed of large rounded boulders of limestone, varying from one hundredweight to three tons, cemented by a paste of natural concrete.

Under such circumstances we were obliged to enclose each of the shoals by dams, erect powerful steam engines to pump out the water, and excavate by manual labour, and chiefly by blasting, what was originally considered to consist of dredgable gravel. One of our greatest difficulties was encountered at Clerhaun Ford, above Shannon Bridge, near the Seven Churches. Here the excavation consisted of cavernous limestone rock, which produced so much water, that Mr. M'Kenzie, the contractor, found it necessary to erect eight steam engines to keep the work sufficiently dry to enable the labourers to proceed with the excavation.

UPPER SHANNON, FROM TARMONBARRY TO LEITRIM, 44 MILES.

THE BOYLE WATER, ABOUT 10 MILES.

The works on this part of the river were let to three sets of contractors, Mr. M'Kenzie, Messrs. Sykes & Brookfield, and Messrs. Jeffs. The two latter had brought their works nearly to completion last year, and the whole would no
doubt

doubt have been finished by this time had not pecuniary impediments arisen connected with contracts not under this Board, which paralysed their exertions, and, in fact, caused the discontinuance of the works, which circumstance has lately induced us, by an amicable arrangement, to take them off their hands, with the intention of completing them under the superintendence of our own officers; and as the works to be performed consist chiefly of the removal of dams, which can be accomplished by our own dredgers, we are satisfied that the public gain by the transfer.

Looking at the Shannon works in their present condition, we have the pleasure to state that we expect the navigation may be opened for public traffic throughout its entire length, from Limerick to Lough Allen and Boyle, a distance of 144 miles, by next spring. No doubt several matters of detail will remain incomplete, but, as we have already mentioned, such will consist chiefly of portions of dams below low-water level, which may be gradually removed by our own dredgers.

In our last Report we noticed the completion of the shoals and dredging operations from Killaloe to Clerhaun; the excavation at Clerhaun was resumed at the latter end of March, by raising the stanks and dams, and setting the pumps to work; the progress made was very satisfactory, and early in the month of May the labourers worked double shifts, almost completing one portion of the work, when a continuance of rainy weather wetting the turf used as fuel for the steam engines, operations nearly ceased, and great numbers of men were necessarily discharged.

From this period until the middle of June the contractor was engaged in repairing implements, erecting a new steam engine and pumps, and laying in a supply of coal.

On the 21st June, between 300 and 400 labourers commenced working double shifts, from 2 a.m. till noon, and from noon till 10 p.m.; the excavation was carried on with various success till the end of September, when the excavation being completed, the dredger was brought up to remove the stanks, and continued its operations till the close of the year, when only about 3,000 cubic yards remained to be removed. During the season, 30,847 cubic yards, consisting chiefly of solid limestone rock, were excavated from below the original bed of the river, eight steam engines having been constantly required to free the works from water.

The average number of persons employed daily at Clerhaun, from 29th March to 6th November, was 247, being equivalent to 47,343 days' work.

The total quantity of material removed was 30,847 cubic yards.

GARRYMORE SHOAL.

The "A." steam dredger was employed removing this shoal until repairs became necessary, which having been effected, she was again set to work, and continued until she could no longer do so with advantage; the divers were then employed in removing the large boulders that interfered with the dredging, the quantity of stones removed amounting to 464 tons, a portion of which were used in the construction of beacons to mark the sailing course.

The average number of persons employed daily at Garrymore, from the 15th September to 31st October, was 10, being equivalent to 191 days' work.

The total quantity of material removed was 10,241 cubic yards.

BALLYNATAVE.

The dredging at this place was completed by the "Albert" dredger, between the 27th September and 3d November, when she was sent to Athlone.

The total quantity of material removed was 7,507 cubic yards.

TULLYMORE.

There remained about 1,200 cubic yards of dredging to complete the removal of this shoal, besides a considerable quantity of large rocks and stones, scattered along the surface of the river bed.

About 222 tons of stone were removed by blasting, and some portion of the dredging was performed, until it was thought advisable to remove the dredger elsewhere,

elsewhere, leaving about 1,000 yards of dredging, in gravel and sand, with stones intermingled, to complete this work.

The average number of persons employed daily at Tullymore, from 12th July to 14th September, was 10, being equivalent to 662 days' work.

The total quantity of material removed was 341 cubic yards.

RANN ISLAND SHOAL.

The dredging at this shoal was carried on by the "Albert" and "Prince" dredger during various periods, regulated by the height of water, advantage being taken when it was too low on some shoals to move them to others. It may be proper to mention that this shoal is composed of very hard materials, an idea of which may be formed by the fact of the dredger having in four days raised only 130 cubic yards, the daily average being no more than 25 cubic yards. A navigable channel 40 feet in width, and to the full depth, having been dredged through one side of this shoal, and the water falling too low to permit her working to advantage, she was removed to Ballynatave. The water having risen sufficiently on 13th November, she was brought back and continued working till the 19th, when the dredger struck with such force against a large rock, that a hole was made in her frame, and she was sent to be docked and repaired at Killaloe. The quantity of material removed was 6,343 cubic yards.

SHOAL BELOW WEIR AT ATHLONE.

From the middle of May until the beginning of August the "B." dredger was at work on this shoal, and the "C." dredger from May till the end of June, when the latter, at the request of the contractor for Athlone works, was handed over to him.

The dredging was continued until a cessation of work was rendered necessary in consequence of want of water. The shoal is composed of blue plastic clay, and the average quantity removed is greater than on any other shoal, being 346 cubic yards daily for the "Albert," and 53½ for the "Prince."

The average number of persons employed daily at this shoal, from 29th July to 9th October, was 41, being equivalent to 2,938 days' work.

The total quantity of material removed was 65,617 cubic yards.

ATHLONE.

From the commencement of the year until nearly the end of March very little progress could be made with the works, in consequence of the extreme severity of the weather. Dressed stone from the quarries was delivered, however, in considerable quantities on the site of the works. On the 22d March, the water-wheels (which were set to work to unwater the coffer-dam two days before) had sufficiently lowered the water to admit of the building the side walls and lower platform of the lock.

During the month of April the piling of the weir and the completion of the lock-gates proceeded very satisfactorily.

The progress of the works was much impeded during the month of May by the floods, which rose sufficiently high to put an end to the piling of the weir.

During the months of June and July the works were not carried on so briskly as circumstances would admit of, but the decrease of the height of water caused much difficulty in the unwatering; the sills and lock-gates were advanced considerably.

In August the weir and retaining walls occupied the principal part of the contractor's attention, and the retaining wall above the weir was all got in, and carried up to a height of five feet above the foundation.

In the lock three of the gates were hung, and a considerable part of the corresponding ironwork and machinery was attached. Towards the end of the month the work was retarded by an accident to the steam engine, which caused the lock to fill with water.

During the month of September considerable progress was made with the weir and retaining wall; the piling of the former was completed, and about 10,000 feet

feet of masonry, which was tied to the retaining wall down stream side; the remainder of the wall was also in a forward state. The drawing of the outer row of piles in the coffer-dam and the cutting of the inner row continued, and the upper lock-gates were advanced. The lower gates were retarded, the chamber of the lock not having been sufficiently unwatered. They were, however, completed under the lower level.

From this period till the close of the year no work calling for particular remark was carried on; and in taking a review of the operations at Athlone for the year 1847, it is satisfactory to find the most important works, namely, the lock and weir, so much advanced, the former being all but completed. Some small jobs of masonry, with the finishing off of the lock-gates, being the only works, excepting the quay wall, required to close the work on the west side of the river. The most backward part of the work is the deepening of the river course; and it is much to be regretted that so fine a season has been permitted to pass without some exertion having been made by the contractor to execute this part of the work.

The average number of persons employed daily at Athlone, from the 1st January to 31st December, was 96, being equivalent to 30,055 days' work.

The total quantity of material removed was 13,050 cubic yards.

WORKS BETWEEN LOUGH REE AND LOUGH FORBES.

The only works which have been in operation on this part of the river during the past year are as follows:

Curreen Shoal.
Lanesborough.
Kilnacaroo.
Erra.
Tarmonbarry, including Curlew Shoal.
Cloondrah (Camlin River).
Cloondrah Canal.

The work performed at Lanesborough, Kilnacaroo, and Erra has been of a trifling description, consisting merely of the removal of some portion of the dams remaining on the completion of the excavation in the bed of the river.

The works at Crompan, Cloonbearlaw, and Lodge remain in the same state in which they were left in the year 1846.

CURREEN SHOAL.

Work was resumed at this shoal by the contractors on the 22d March, when a few men were employed raising and strengthening the dams, which had remained in since the previous year, and which had been much injured by the winter floods. The engine having commenced pumping, the dam was unwatered, and the excavation commenced on the 5th, and was continued until the 24th April, on which day a severe storm occurred, which drove the waves from Lough Ree over the dams, and filled the 'pit to a depth of four feet; the weather continued stormy until the end of the month, and it was not until the 3d May that the excavation was resumed, and continued, at intervals, until the 1st July, when the pit was excavated to the proper depth for a length of 300 feet, the river being turned down the portion which had been completed; a fresh piece of work was laid sufficiently dry on the 5th July; excavation was begun and continued until the 14th August, when this portion was completed.

The dredger "Princess Alice" was occupied dredging from the 1st May until the 17th November.

The average number of persons employed daily at Curreen, from the 1st January to 31st December, was 111, being equivalent to 22,064 days' work.

The total quantity of material removed was 47,883 cubic yards.

LANESBOROUGH.

With the exception of a few days' dredging, during which period 628 cubic yards of material was removed, nothing was done at this work.

The average number of persons employed daily at Lanesborough was 20, being equivalent to 122 days' work.

KILNACARROW.

Four days' dredging was all that was done at this shoal, which removed about 294 cubic yards.

The average number of persons employed daily at Kilnacarrow was 21, being equivalent to 86 days' work.

ERRA.

During the month of December the dredger removed 1,553 cubic yards.

The average number of persons employed daily was 19, being equivalent to 386 days' work.

TARMONBARRY.

The only work required to complete the operations at this place consisted of some roping to the lock and wharf wall; great difficulty was however experienced in procuring stone of suitable dimensions; the whole was completed by the end of July.

During the month of August, the water being very low, the river bed between Tarmonbarry and Gannon's Island was cleared of loose stones and the remains of dams, and the boundary of the Commissioners' property defined by stone marked for that purpose. This completed Messrs. Sykes & Brookfield's contracts in this locality, except the portion of the weir above mentioned.

The closing of the weir commenced in August, and continued without interruption until the 26th September, when the dam above the weir burst, and the water rose so rapidly at Tarmonbarry, that it was impossible to make further progress.

CURLIEW SHOAL.

The removal of this shoal was attempted by spoon and bag, which not proving efficacious, it was surrounded by dams, unwatered, and removed by excavation.

In the early part of July, a dam which was formed for the purpose of keeping back the water from the works, and for affording a better supply of water to Mr. Fleming's mill, burst, and operations have been suspended at Curlew since that time.

Some extra work has been executed at this place, but which was of too trifling a nature to be mentioned here, except the putting of a paved apron, three yards wide, at the foot of the weir, and some beacons to mark the sailing course.

The average number of persons employed daily at Tarmonbarry and this shoal was 13, being equivalent to 4,118 days' work.

The total quantity of material removed was 1,080 cubic yards.

EMBANKMENT AND BACK DRAIN.

In consequence of the water level between the weir at Tarmonbarry and the island at Lack being permanently raised by the construction of the new weir to regulate the navigation, the flooding of some of the low lands above the bridge, on both sides of the river, would have taken place.

It was consequently rendered necessary to form an embankment along the verge of the river, with a deep drain at the rear of the village of Tarmonbarry to the Shannon, below the lock, in order to carry off the drainage water of the land

land so embanked from the river. On the 23d of April the work commenced, which consisted of forming an embankment four feet wide at top, which was to be three feet above summer water level, the slope next the river to be protected with a rough pitching, the top back slope sodded, and leaving a back drain parallel to the embankment, and opening into the deep main drain already alluded to, the length of the new embankment and back drain being about 600 lineal yards, leaving 350 yards of the drain above the bridge, which had to be raised, improved, and provided with a back drain. The main drain is 1,100 yards long, with from 10 to 12 feet of cutting for a considerable part of the distance, crossing two roads in its course. The whole of the work was completed in September, since which it has been subjected to some very severe tests, the floods having been unusually high. It has, however, sustained little or no injury.

The average number of persons employed daily at this work, from 16th April to 31st December, was 68, being equivalent to 12,192 days' work.

The total quantity of material removed was 15,840 cubic yards.

WORKS AT CLOONDRAH.

At the close of the year 1846, the works connected with the alteration of Mr. Fleming's mill were in a forward state, as described in our Report for that year.

The excavation at the upper side of the mill was just completed, some progress made in deepening the tail race, the foundations prepared for the regulating weir, the stone quarried, and all preparations made for commencing the building as soon as sand could be procured.

The excavation in the tail race and above the mill was finished on 9th February; the portion of the Camlin River, for a length of 300 yards below the junction of the tail race, was then enclosed with dams, and unwatered, the main body of water being at this time turned down Cloondrah Canal and Lock; the excavation proceeded favourably until the 24th February, when the floods, accompanied by a severe gale of wind, broke over the dam and stopped the work.

Operations were resumed on the 6th March, and completed on the 27th, at which time Mr. Fleming had also completed his work; the dam was cleared away and the water allowed to flow to the mill.

WEIR.

The masons commenced the building of the weir on the 4th February; the retaining walls were also completed on the 15th of March, with the exception of the coping of the former, which was finished on the 29th March. The stone was obtained from a quarry in Cloondrah.

At this time the level of the Shannon and Camlin was considerably below intended summer water, in consequence of the weir at Tarmonbarry being open and Curlew Shoal cut through. The contractor for the works at Rooskey being anxious to keep the water in Lough Forbes as low as possible, for the advantage of the work which he was carrying on between that place and Rooskey, obtained permission from us to form a dam across the Camlin at Lough Forbes, for the purpose of turning all the water of the Ballykenny and Fallon Rivers down to Cloondrah, and thereby afford Mr. Fleming sufficient water to work his mill without raising the level of the Shannon water; this had the effect of raising the water to a sufficient height at the mill, but the dam giving way, the water fell again, the season being remarkably dry.

CLOONDRAH LOCK.

An inspection was made of the state of this lock by forming dams, above and below, unwatering it, and removing the gravel, &c. which had accumulated in the chamber; and the practicability of underpinning the lock having been favourably reported on by the resident engineer, the working drawings were prepared, and the work commenced on 23d October, and progressed steadily up to 23d December, when the flood being at an unusual height, burst through the dam below the lock and put a stop to the operations for the season, not before the whole of the lower

wing walls, hollow quoins, and recess walls, and 60 feet of the western wall of the chamber were underpinned; it has also been found necessary to protect a portion of the slopes below the wing walls for a length of 29 feet.

Canal.—On the 10th of September the lower portion of the canal having been unwatered, excavation was commenced. This portion of the canal passes through deep cutting, and had become very narrow in the bottom in consequence of the sides being steep, and an accumulation of gravel and stones which had slipped in. It has now been enlarged to an uniform breadth of 18 feet at bottom, it not being practicable for the greater portion of its length to give the sides a greater slope than about nine inches horizontal to one foot vertical. The slopes were protected with good dry rubble pitching, three yards in height. The work progressed satisfactorily till the 8th November, at which time the floods overtopped the dam, as before mentioned, and the water burst in. It consequently became necessary to form a secure dam about 30 yards below the tail of the lock, which being completed, the excavation in the enclosure was finished.

The total quantity of material removed was 5,365 cubic yards; pitching of slopes 2,466 square yards.

CLOONEEN COX AND CLOONFAD.

These shoals, at which very little had been done in the year 1846, were commenced in the month of January, and the work was vigorously pushed on till the beginning of May, when the last enclosure of the Cloonfad Shoal was completed, and the water let in. There now remains some dredging to be executed at the stanks, and also at the tails of the shoals; the removal by spoon and bag being too tedious and expensive, their completion is delayed.

The average number of persons employed daily at these shoals, from the 1st January to 23d May, was $193\frac{1}{2}$, being equivalent to 24,429 days' work.

The total quantity of material removed was 107,012 cubic yards.

BIRD ISLAND SHOAL.

As soon as the pumping apparatus and materials could be spared from the two shoals above mentioned, Bird Island was commenced; an artificial fall was obtained at the head of this shoal by means of a cross stank, giving power to a water-wheel, which was erected for working the pumps; by this means three, and occasionally four wooden pumps were kept at work, with a lift of nearly 10 feet.

The excavation of this shoal was continued without interruption till the 10th of July, at which time the channel within the enclosure being completed, the water was let in. Some dredging still requires to be done, with the removal of the stanks; a channel, however, has been formed for the passage of boats conveying materials to the various works.

The average number of persons employed daily at Bird Island Shoal, from the 10th May to the 31st July, was 172, being equivalent to 12,051 days' work.

The total quantity of material removed was 22,995 cubic yards.

ROOSKEY.

The portion of the river extending between the new lock and the upper end of Rooskey Shoal having never been completely finished, a great number of dams having been left in from former attempts to remove it by excavation, the contractor, notwithstanding the advanced period of the year, made vigorous preparations to perfect this work; and, for this purpose, he constructed a dam across the river, and turned the whole of the water through the canal. Early in August the work was unwatered, and the necessary arrangements as regards pumps were almost completed, when, on the 23d of August, the upper stank burst, and flooded the work; it was immediately repaired, and the pits unwatered again in a few days. The excavation was then carried on by night and day, and by the exercise of great care and watchfulness, it was completed on the 27th September; and so great were the difficulties to be contended against, that the workmen and their

their tools were scarcely removed from the enclosure before the dam burst in three places, and the whole was flooded.

Advantage was taken at this time to clear out the new lock, and to examine and repair the paddle racks for the sluices, and for fixing the casings for the upper machinery or the coping.

The lock-house was completed in the month of June, and the lock-keeper put in possession.

The average number of persons employed daily at Rooskey, from the 1st January to 31st December, was 90, being equivalent to 28,409 days' work.

The total quantity of material removed was 3,800 cubic yards.

DERRYCARNE.

The season was considerably advanced before the necessary preparations were completed for commencing the removal of this shoal, which was not begun until the end of July, continuing to the end of August, when further operations were prevented by the increased height of the water.

The average number of persons employed daily at Derrycarne, from the 16th July to the 16th October, was 68, being equivalent to 5,456 days' work.

The quantity of material removed was 4,600 cubic yards.

DANCING STONE.

This shoal, though not mentioned by name in our Fourth Report, caused considerable obstacles to the navigation, particularly where an old causeway had been formed across it, leading from the ancient monastery at Kilmore. The shoal was enclosed by dams early in the summer, and is now completed, with the exception of the removal of stanks, at which a spoon and bag dredger is now at work.

The average number of persons employed daily at the Dancing Stone Shoal, from the 1st July to the 20th September, was 51, being equivalent to 3,600 days' work.

The quantity of material removed was 2,440 cubic yards.

LOUGH NANOGUE.

This shoal was nearly all dredged, for the full length and breadth of the navigation, to the mouth of Jamestown Canal.

JAMESTOWN CANAL.

The new canal from Lough Nanogue to the lock is not yet completed. Some excavation was removed from this navigation at the latter end of August, when a small slip occurred on one bank, and the contractors then allowed it to fill with water, and have not since resumed work.

The bottom requires clearing up, and the slope and spoil banks trimming off.

Lock.—The lock is in a very forward state, and is a creditable piece of masonry; the invert sills, platforms, aprons, side walls, &c., are all complete, the latter being coped on one side, and about half coped on the other; the upper wing walls are not quite completed, and the whole requires some hewing on the coping and hollow quoins. The gates are being framed, nearly all the timber being on the ground; the castings, however, are not as yet received.

From the lock to the head of the canal there remains two short lengths incomplete, the bog just below the lock, and the Black Lough beyond Corlara Bridge. The difficulty was to prevent the bottom from rising, and the embankment from settling; that having been overcome, it is considered that when the canal is again unwatered, the bottom, which has been forced up in the centre of the canal, can be removed permanently, as the clay forming the embankments at either side has come to a solid foundation.

The Black Lough Embankment has been a source of considerable trouble and anxiety the whole season, but by continually tipping in clay on the embankment, notwithstanding its repeated subsidence, a strong and permanent causeway has at length been obtained.

Corlara Bridge.—This bridge has been partly rebuilt, in consequence of the retaining walls to the south approach having settled. One is built up in a permanent manner, and the other is in progress; the passage near the bridge has not been interfered with.

Kilbride Bridge is completed, with the exception of a few trifling repairs to the roadway. A quay-wall and wharf, with an approach from the Elphin road, has been made just above Kilbride Bridge. These works are in a very forward state, and do not require much to complete them.

Drumsna Shoal.—This shoal is completed, with the exception of the removal of stanks; there is also a small quantity of rock to be taken out under the bridge.

Drumsna Bridge.—The casings of the piers of this bridge with cut stone has been completed.

Mount Campbell Shoal.—This shoal is completed, with the exception of the removal of stanks, and trimming off the spoil banks.

Jamestown.—This shoal has been excavated to the required depth.

Jamestown Weir.—This work has been completed; a gap 50 feet wide being left for the temporary discharge of the water.

The average number of persons employed daily at the foregoing works, from the 1st January to 31st December, was 180, being equivalent to 56,570 days' work.

The total quantity of material removed was 39,533 cubic yards.

KILBRIDE.

During the low state of the river, the stanks, which had been used in unwatering this shoal, were removed, except some dredging of a trifling nature.

The average number of persons employed daily at Kilbride, from the 12th to 26th of August, was 22, being equivalent to 289 days' work.

The total quantity of material removed was 620 cubic yards.

DOYLE'S ISLAND.

The channel at this place has been completed, and almost all removed, a fortnight's dredging being all that is required to be done.

The average number of persons employed daily at this work, from the 4th August to 19th September, was 40, being equivalent to 1,620 days' work.

The quantity of material removed was 1,084 cubic yards.

CORNACARROO.

This shoal has been completed for half its entire length, and the stanks thinned as much as possible.

The average number of persons employed daily at Cornacarroo, from the 1st July to the 18th September, was 51, being equivalent to 3,552 days' work.

The quantity of material removed was 5,460 cubic yards of clay and gravel.

GROSE'S ISLAND.

This shoal, which is composed of indurated clay, gravel, and boulders, was removed during the past year, and the stanks nearly all dredged out, leaving but a few days' work to complete it entirely.

The average number of persons employed daily at Grose's Island, from the 1st July to 31st December, was 46, being equivalent to 7,256 days' work.

The quantity of material removed was 11,706 cubic yards.

CARRICK-ON-SHANNON.

The works at this place were almost completed at the close of the year 1846. Early this year the bridge was opened for public traffic, and all the other portions

of

of the works have been finished, except the harbour, which, owing to the softness of the material, is liable to slip in.

The average number of persons employed daily at Carrick-on-Shannon, from the 1st January to 31st December, was 15, being equivalent to 4,964 days' work.

The quantity of material removed was 1,400 cubic yards.

ANNAGHLECKY.

This shoal has been removed, with the exception of the stanks.

The quantity of material removed was 4,600 cubic yards.

DOCTOR'S WEIR.

There yet remains a good deal of dredging to be done, both to the stanks and at the head and tail of this shoal.

The average number of persons employed daily at this work and Annaghlecky, from the 20th September to the 14th November, was 130, being equivalent to 6,272 days' work.

The quantity of material removed at Doctor's Weir was 9,131 cubic yards.

COOTEHALL.

A large enclosure, the full length of this shoal, has been formed, and kept unwatered by a steam engine of 8-horse power; the channel was by this means completed, excepting where it widens out into the quay-walls.

Bridge.—Two piers of the new bridge were also built, and the foundation of another prepared. Two arches of the bridge are about half turned, and the work, as far as it has gone, is executed in a creditable manner.

The average number of persons employed daily at Cootehall, from the 1st June to 31st December, was 136, being equivalent to 24,894 days' work.

The quantity of material removed was 2,400 cubic yards.

KNOCKVICAR.

This work was left in a very forward state at the termination of the last year, since which the masonry has not been much advanced. The new bridge has been completed, with the exception of the parapet. The sluice at the head of the mill-race, and a short length of the weir, are the only building operations that have been executed this year. The lock has not been advanced this season, though three parts built, nor have there been any stones prepared for it. The excavation of the channel from the first deep water above the lock down to the weir has been completed.

The average number of persons employed daily at Knockvicar, from the 1st January to 31st December, was 80, being equivalent to 25,249 days' work.

The total quantity of material removed was 6,000 cubic yards.

BOYLE RIVER.

A navigable channel, 50 feet at bottom, has been formed from the head of Lough Key up to Boat-house Ford; there remains, however, some dredging to be done before the navigation can be opened.

The average number of persons employed daily at Boyle River, from the 28th June to 16th October, was 90, being equivalent to 8,727 days' work.

PORT SHOAL.

During the low state of the river, in the month of July, the old stanks were removed as far as practicable, and there now only remains some dredging to complete the work.

LEITRIM.

Two land cuts and one side cut have been partially formed to counteract the winding of the river, which at this place runs through a flat apparently alluvial deposit; the depth of cutting averaged 12 feet, but the bottom level was not permanently obtained, owing to continual slips and settlements, which has rendered it necessary to dredge the remaining portion of this work.

The average number of persons employed daily at Leitrim, from the 1st July to 31st December, was 154, being equivalent to 24,173 days' work.

The total quantity of material removed was 54,000 cubic yards.

LOUGH ALLEN CANAL.

Previous to commencing any work here, it was necessary to run the canal dry, and examine its state of repair; this has been done, and early next year the scouring of the back drains and canal and underpinning of the locks will be put in hands.

CARNADOE WATERS.

The channel at Lough Badarig has been considerably advanced by excavation during the low state of the river in the mouths of July and August.

The average number of persons employed daily at Carnadoe, from the 1st October to 7th November, was 42, being equivalent to 1,350 days' work.

The total quantity of material removed was 12,500 cubic yards.

CARNADOE BRIDGE AND WHARF.

Are completed, but some dredging is required in the navigable channel. Shoals also at Carrigeen, Lavagh, and Miltown have been partially removed, and a little dredging will complete them.

RENTS AND TOLLS.

No alteration has taken place in the rates of tolls and other dues levied on the Shannon since our last Report.

Schedule (A.) in the Appendix exhibits an increase on the average collected in preceding years. The amounts collected at the stations between Limerick and Lough Allen is 1,009 *l.* 13 *s.* 5 *d.* over that of the year 1846, and the collection at the Lower Shannon stations shows an increase of 36 *l.* 6 *s.* 8 *d.*

ACCOUNTS.

Your Lordships have already been informed that frauds to a considerable amount have been committed by Mr. Henry J. Mason, late accountant to the Shannon Commission.

The Report of the Commissioners appointed by your Lordships to inquire and report upon all the circumstances of the case will have made known the amount and particulars of the transactions, which renders it unnecessary for us to give any further details. We need only state that by forgery, fraud, and deceit he has embezzled sums to the amount of 8,018 *l.*, and that he was committed to gaol to stand his trial for forgery and embezzlement at the commission of oyer and terminer held in Dublin on the 18th February, and having been found guilty, was sentenced to seven years' transportation.

The claim against John B. Scott, esq., for the amount of his contribution towards the erection of the pier at Kildysart still remains outstanding.

We have, &c.

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

Office of Public Works, }
Custom-house, Dublin, }
June 1848.

(signed) J. C. Walker, Sec.

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A P P E N D I X.

— No. 1. —

ACCOUNT of the several SUMS Received and Expended by the COMMISSIONERS in Execution of the Provisions of the Act 2 & 3 Vict., c. 61, between 1st January and 31st December 1847.

ESTABLISHMENT.

RECEIPT:	£.	s.	d.	£.	s.	d.
To Balance of Account ending 31st December 1846 - - -	125	16	2			
To advance, being a balance of investment sold out, and held for the benefit of Contractor - - - - -	26	13	5			
TOTAL RECEIPT - - -	<hr/>			152	9	7
EXPENDITURE:						
By travelling expenses - - - - -	5	6	10			
By descriptive memoir - - - - -	30	-	-			
By contingencies, including books, maps, coals, carriage of parcels, &c. - - - - -	1	10	3			
By law contingencies - - - - -	178	11	10			
TOTAL EXPENDITURE - - -	<hr/>			215	8	11
Excess of Expenditure - - - - -				62	19	4

Office of Public Works, }
 Custom-house, Dublin, }
 16 June 1848. }

E. Adams, Accountant.

— No. 2. —

ACCOUNT of the several SUMS Received and Expended by the COMMISSIONERS in Execution of the Provisions of the Act 2 & 3 Vict. c. 61, between 1st January and 31st December 1847.

WORKS.

RECEIPT:	£.	s.	d.	£.	s.	d.
To Balance of Account, ending 31 December 1846 - - -	19,072	2	4 $\frac{3}{4}$			
To Amount of monies issued by the Treasury during the year 1847 - - - - -	40,000	-	-			
TOTAL RECEIPT - - - (carried forward) - - -	<hr/>			59,072	2	4 $\frac{3}{4}$

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.	AMOUNT EXPENDED.					
		£.	s.	d.	£.	s.	d.
	Total Receipt brought forward - - -	-	-	-	59,072	2	4½
7	By Foynes Island - - - - -	3,684	14	-			
28	Garrymore - - - - -	26	17	2			
32	Clerhaun - - - - -	47	10	3			
33	Ballynatave - - - - -	13	15	-			
34	Tullymore - - - - -	13	16	8			
36	Long Island - - - - -	27	6	10			
37	Rann Island - - - - -	12	10	-			
39	Works at Athlone - - - - -	3,961	5	-			
41	Curreen - - - - -	618	6	4¼			
44	Crompaw - - - - -	9	2	-¾			
45	Erra - - - - -	60	7	3			
46	Cloonbearlaw - - - - -	-	16	-			
47	Lodge Cut - - - - -	35	-	-			
48	Lanesborough to Tarmonbarry - - - - -	2,174	13	9			
49	Cloondrah Canal - - - - -	2,741	15	10			
52	Clooneen Cox and Cloonfad - - - - -	1,341	6	6			
53	Bird Island - - - - -	2,186	5	-			
54	Roskey - - - - -	5,598	10	4			
55	Derrycarne - - - - -	385	12	7			
56	Lough Tap - - - - -	232	9	9			
58	Jamestown Canal - - - - -	2,676	19	3			
59	Drumsna - - - - -	98	4	8			
61	Jamestown - - - - -	68	12	11			
62	Kilbride - - - - -	18	10	5			
63	Doyle's Island - - - - -	104	5	9			
64	Cornacorroo - - - - -	366	2	5			
66	Grose's Island - - - - -	654	-	9			
67	Carrick-on-Shannon - - - - -	1,975	9	11			
71	Port - - - - -	13	13	8			
72	Leitrim - - - - -	1,957	4	2			
73	Battle Bridge - - - - -	6	-	2			
74	Lough Allen Canal - - - - -	28	15	6			
80	Dredging vessels, barges, &c. - - - - -	3	7	2			
81	Workshops, machinery, contingencies - - - - -						
84	Carnadoe (shoal at bridge) - - - - -	5,163	12	10			
85	Carrigeen - - - - -	1,883	19	5			
87	Annalecky - - - - -	165	-	-			
88	Doctor's Weir - - - - -	297	3	3			
90	Cootehall - - - - -	1,460	12	1			
93	Knockvicar - - - - -	1,991	17	-			
95	Boyle River - - - - -	812	16	11			
	Implements, plant, tools, &c. - - - - -	976	6	2			
	TOTAL EXPENDITURE - - - - - £.				43,694	14	9
	BALANCE - - - - - £.				15,177	7	7½

Office of Public Works,
Custom-house, Dublin,
16 June 1848.

E. Adams, Accountant.

— No. 3. —

A RETURN of the several Sums remitted to the Paymaster of Civil Services, during the Year ending 31st December 1847, by the under-mentioned Counties in *Ireland*, in Repayment of Advances by the COMMISSIONERS for the improvement of the River *Shannon*, pursuant to the Act 2 & 3 Vict. c. 61, and on account of Interest, at the Rate of Four per Cent. per Annum, accruing on said Advances.

COUNTY, &c.	Date of Payment.	Principal.	Interest at 4 per Cent. per Annum.	TOTALS.					
				Principal.		Interest.		Principal and Interest.	
		£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	
CLARE - - -	1847 : 4 March -	1,346 - -	189 10 4	2,589 11 4	370 13 6	2,960 4 10			
	23 July -	1,243 11 4	181 3 2						
GALWAY - - -	23 April -	2,613 15 5	403 - 6	4,318 17 8	684 5 9	5,003 3 5			
	4 Nov. -	87 15 6	33 3 1						
	8 Dec. -	489 1 6	79 14 3						
	24 Dec. -	1,128 5 3	168 7 11						
KING'S COUNTY - - -	22 March -	756 - -	113 9 7	1,512 - -	226 19 4	1,738 19 4			
	6 August -	756 - -	113 9 9						
LEITRIM - - -	10 March -	1,820 7 4	276 10 4	3,856 7 2	583 18 7	4,440 5 9			
	3 August -	2,035 19 10	307 8 3						
LIMERICK - - -	3 April -	301 13 -	42 11 2	603 6 -	85 2 5	688 8 5			
	20 August -	301 13 -	42 11 3						
DITTO CITY - - -	7 April -	37 9 8	- - -	37 9 8	- - -	37 9 8			
LONGFORD - - -	26 Feb. -	1,047 7 1	168 15 4	2,218 3 8	356 13 8	2,574 17 4			
	15 July -	1,170 16 7	187 18 4						
MAYO - - -	19 April -	204 9 -	38 3 7	407 17 10	79 6 -	487 3 10			
	1 Sept. -	203 8 10	41 2 5						
ROSCOMMON - - -	5 March -	3,612 18 8	528 9 3	7,085 15 5	1,165 3 3	8,350 18 8			
	20 August -	4,072 16 9	636 14 -						
SLIGO - - -	17 March -	156 5 9	25 6 4	387 13 9	68 15 1	456 8 10			
	6 August -	231 8 -	43 8 9						
TIPPERARY (South Riding)	13 March -	372 2 -	56 6 -	744 6 -	112 10 4	856 16 4			
	29 July -	372 4 -	56 4 4						
DITTO (North Riding)	29 March -	794 2 -	115 17 6	1,588 4 -	231 15 4	1,819 19 4			
	10 August -	794 2 -	115 17 10						
WESTMEATH - - -	20 March -	1,514 16 5	227 2 5	3,023 12 -	443 6 10	3,466 18 10			
	10 August -	1,508 15 7	216 4 5						
TOTALS - - - £.				28,973 4 6	4,408 10 1	33,381 14 7			

Paymaster of Civil Services Office,
Dublin Castle, 7 January 1848. }

(signed) T. F. Kennedy.

No. 3—*continued.*

A RETURN of the several Sums remitted to the Paymaster of Civil Services, during the Year ending 31st December 1847, by INDIVIDUALS, in Repayment of Advances by the COMMISSIONERS for the Improvement of the River *Shannon*, pursuant to the Act 2 & 3 Vict. c. 61, with Interest at the Rate of Five per Cent. per Annum, accruing on said Advances.

	Principal.	Interest at 5 per Cent. per Annum.	Principal and Interest.
	£. s. d.	£. s. d.	£. s. d.
1847:			
13 Jan.—Colonel C. M. Vandeleur's contribution, per Shannon Commissioners, to Kilrush Pier - - -	350 1 3	18 - 7	368 1 10

Paymaster of Civil Services Office,
Dublin Castle, 7 January 1848. }

(signed) *T. F. Kennedy.*

RECAPITULATION.

	Principal.	Interest.	Principal and Interest.
	£. s. d.	£. s. d.	£. s. d.
Repaid by Counties - - - - -	28,973 4 6	4,408 10 1	33,381 14 7
Ditto - by Individuals - - - - -	350 1 3	18 - 7	368 1 10
£.	29,323 5 9	4,426 10 8	33,749 16 5

Paymaster of Civil Services Office,
Dublin Castle, 7 January 1848. }

(signed) *T. F. Kennedy.*

— No. 4. —

RETURN, showing the TOTAL AMOUNT of Advances as LOANS made by the COMMISSIONERS acting in Execution of the Provisions of the Act 2 & 3 Vict. c. 61, to the under-mentioned Counties, up to the 31st December 1847, 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 Amounts still outstanding on foot of same.

NAMES OF COUNTIES.	Total Advances in the Years 1840 to 1847 inclusive, with 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.
		Principal.	Interest.	Principal and Interest.	
	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
Limerick - - -	6,756 15 2 $\frac{1}{2}$	4,942 12 2 $\frac{1}{2}$	723 17 10 $\frac{1}{2}$	5,666 10 1	1,090 5 1
Limerick (County of the City) - -	4,530 16 6 $\frac{1}{2}$	1,483 11 2 $\frac{1}{4}$	368 6 4 $\frac{3}{4}$	1,851 17 7	2,678 18 11 $\frac{1}{2}$
Clare - - -	21,918 - 1 $\frac{3}{4}$	14,154 5 3 $\frac{1}{4}$	2,114 9 3	16,268 14 6 $\frac{1}{4}$	5,649 5 7 $\frac{1}{2}$
Tipperary (North Riding) - - -	15,522 10 5 $\frac{1}{2}$	11,027 3 1 $\frac{1}{2}$	1,674 8 9 $\frac{1}{2}$	12,701 11 11	2,820 18 6 $\frac{1}{2}$
Tipperary (South Riding) - - -	7,126 14 7 $\frac{3}{4}$	5,042 19 5 $\frac{1}{2}$	700 7 10 $\frac{1}{2}$	5,743 7 4	1,383 7 3 $\frac{3}{4}$
Galway - - -	45,019 1 2	29,416 - -	4,545 8 5	33,961 8 5	11,057 12 9
Rosecommon - - -	76,605 18 1 $\frac{3}{4}$	28,172 9 7	4,354 9 -	32,526 18 7	44,078 19 6 $\frac{3}{4}$
King's County - - -	15,296 - -	11,635 7 7 $\frac{1}{4}$	1,537 4 9 $\frac{3}{4}$	13,172 12 5	2,123 7 7
Westmeath - - -	29,137 5 6 $\frac{3}{4}$	16,191 10 1	2,544 16 11	18,736 7 -	10,400 18 6 $\frac{1}{2}$
Longford - - -	21,665 1 7 $\frac{3}{4}$	8,387 - 11	1,241 5 6 $\frac{3}{4}$	9,628 6 5 $\frac{3}{4}$	12,036 15 2
Leitrim - - -	34,837 6 7 $\frac{1}{2}$	11,314 18 4 $\frac{1}{4}$	1,740 14 2 $\frac{3}{4}$	13,055 12 7	21,781 14 - $\frac{1}{2}$
Mayo - - -	5,143 12 1 $\frac{1}{2}$	2,636 15 5 $\frac{1}{4}$	453 14 2 $\frac{3}{4}$	3,090 9 8	2,053 2 5 $\frac{1}{4}$
Sligo - - -	4,470 8 3 $\frac{1}{2}$	979 7 10 $\frac{1}{2}$	139 15 3 $\frac{1}{2}$	1,119 3 2	3,351 5 1 $\frac{1}{4}$
TOTALS - - £.	288,029 10 5 $\frac{3}{4}$	145,384 1 1 $\frac{1}{4}$	22,138 18 7 $\frac{3}{4}$	167,522 19 9	120,506 10 8 $\frac{1}{4}$

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.

Office of Public Works, Custom-house, Dublin, }
16 June 1848.

E. Adams, Accountant.

— No. 5. —

ACCOUNT of the several Sums Received and Expended by the COMMISSIONERS in Execution of the Provisions of the Act 2 & 3 Vict. c. 61, between 1st January and 31st December 1847.

RENTS AND TOLLS.

		£.	s.	d.
RECEIPT :				
To Balance of Account ending 31st December 1846	- - - - -	366	6	10
To Rents :				
Mills, Land and other Holdings	- - - - -	533	12	4
Fishing of Weirs	- - - - -	580	5	-
Produce of Sales	- - - - -	5	1	3
Water Power	- - - - -	48	9	3
		1,167	7	10
To Gauging and Weighing Boats (Fees for)	- - - - -		5	11
Fees, &c., for Renewal of Certificates	- - - - -		-	6
Fines	- - - - -		-	6
To Tolls	- - - - -	2,591	16	4
Wharfage	- - - - -	223	3	9
Quayage	- - - - -	216	4	2
Crannage	- - - - -	12	12	4
		3,043	16	7
	TOTAL RECEIPT	£.	4,583	3
			3	3
EXPENDITURE :				
By Salaries and Allowances :				
Engineers, Surveyors and Inspectors	- - - - -	120	10	7
Collectors	- - - - -	358	13	7
Lockkeepers	- - - - -	65	10	1
Gauging and Weighing Boats	- - - - -	1	12	-
Water Bailiffs	- - - - -	9	-	-
Care-takers	- - - - -	3	15	10
		559	2	1
By Payments on Account of Loans made by the Board of Works to the late Limerick Navigation Company ; viz.				
Interest due to the 31st December 1847	- - - - -	463	16	8
Two Instalments of Principal	- - - - -	770	16	8
		1,234	13	4
By Rents	- - - - -	25	17	-
Taxes	- - - - -	11	5	5
Tolls	- - - - -	2	17	-
Maintenance and Repairs of Canals, Trackways, &c.	- - - - -	1,071	3	-
Miscellaneous	- - - - -	3	15	0
		1,114	17	11
	TOTAL EXPENDITURE	£.	2,908	13
			4	
	BALANCE	£.	1,674	9
			11	

Office of Public Works,
Custom-house, Dublin,
16 June 1848.

E. Adams, Accountant.

SCHEDULE (A.) - - - - -

COMPARATIVE TABLE, showing the TOLLS and WHARFAGE

STATIONS.	TOLLS.								WHARFAGE - - -			
	1840.	1841.	1842.	1843.	1844.	1845.	1846.	1847.	1840.	1841.	1842.	1843.
	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
Limerick - - -	822 8 10½	674 15 0½	510 14 6½	499 9 4½	486 14 0½	509 15 3	706 12 5½	1,355 13 4½	20 2 8	23 - 11¼	24 11 2½	23 1 - 3
Annaghbeg - - -	5 11 4½	11 - 1½	46 5 10½	22 4 - ¼	11 15 11	14 9 -	15 19 - ¾	20 5 5	4 18 3	8 15 11	21 17 1½	3 5 -
Errina - - -	1 9 9½	3 11 4½	3 5 6	1 2 1½	2 - 10½	1 3 7	3 7 7	1 5 11½	1 4 6½	1 2 9½	- 19 8	- 8 -
O'Brien's Bridge - - -	16 9 7	20 6 9½	17 17 - ½	10 7 5½	8 1 3	3 7 2	2 8 1	2 - 9	7 4 2	11 15 6½	14 19 5½	2 14 8½
Cussane - - -	1 6 9	1 12 8½	27 12 - ¼	9 15 10½	2 4 4	2 11 7½	2 3 3½	1 16 6	- 1 8	- 2 8	- 4 6	- 16 5½
Killaloe - - -	134 6 - ¾	308 10 5½	315 8 3½	352 1 3	362 5 4	440 18 4½	483 17 2	440 - 3½	29 7 2½	46 8 11½	36 10 - ¼	37 17 8½
Scarriff* - - -	- - -	- - -	- - -	- - -	- - -	- - 2½	4 17 10½	3 6 2½	- - -	- - -	- - -	- - -
Portumna - - -	169 12 6	198 3 9½	155 1 11½	161 16 6½	168 19 10½	218 14 9½	163 6 6½	219 - 4	11 7 9	14 7 2½	15 17 11½	13 16 10½
Victoria Lock† - - -	3 3 9½	3 19 8½	2 16 5½	2 3 5	2 9 2½	5 6 4	9 5 3	8 - 4½	- - -	- 7 4½	- 18 5½	- 16 11½
Banagher - - -	289 - - ¼	103 6 10½	83 5 8	91 16 11½	91 12 6½	76 19 10½	55 7 1½	112 10 11½	3 13 8½	9 2 1	7 8 2½	5 16 6½
Shannon Harbour - - -	5 1 5	192 11 11½	167 6 - ¾	117 5 8	134 14 1½	100 11 6	219 19 11½	457 5 8	- - -	- - 4½	- 1 0½	- - 10½
Shannon Bridge - - -	72 8 9½	6 11 3½	3 1 - ½	31 16 10½	32 10 - ¾	12 - 11½	15 3 11	22 13 5½	3 7 3½	2 9 7½	1 15 7	1 17 1½
Atilone - - -	168 10 2½	115 4 5½	74 5 11½	70 6 3½	99 3 3½	100 12 4½	78 9 - ¼	84 13 5	34 9 11½	7 11 7½	4 2 2½	7 12 7½
Lecarrow - - -	- - -	- - -	- - -	- - -	2 19 4	4 10 10	3 6 4	1 17 2½	- - -	- - -	- - -	- - -
Lanesborough - - -	72 7 9½	13 10 3½	21 14 7½	16 9 9½	5 16 7½	8 17 - ½	2 15 9	4 11 0½	4 18 11	8 3 3	10 18 11½	7 13 7½
Cloendragh - - -	19 5 9	17 4 8	12 12 3½	16 3 8½	15 17 9½	9 2 4½	1 13 2	- 8 10½	- 2 2½	- 8 2	- 3 5	- 7 7½
Rooskey - - -	8 3 8½	4 7 5½	4 1 11½	6 7 7½	7 2 7½	6 5 9½	1 18 1	- 19 2	3 - 5½	1 4 9	1 6 3½	1 19 9
Drumsna - - -	7 16 1½	6 16 2½	8 14 9½	9 4 3½	10 8 11½	7 15 9	3 7 3	1 5 11	1 16 - ¾	1 16 2½	2 18 9½	2 - 2½
Jamestown - - -	3 11 3½	1 3 2	1 19 4	1 7 5	- 12 1½	- - -	- - -	- - -	- 10 - ½	- 8 6½	- 9 -	- 4 4
Carrick-on-Shannon - - -	14 8 2	13 14 1	12 15 8	9 7 6½	8 15 8	9 12 5	7 9 11	4 1 8	17 4 11½	16 6 7½	16 3 9½	11 9 6
Battle Bridge - - -	1 2 4	- 13 16½	1 7 2½	- 7 11½	- 17 2½	- 13 6½	- 7 11	- 1 10½	1 10 7½	- 13 2	1 3 8	- 5 -
Drumleague - - -	7 15 9½	4 8 9	2 11 2	4 1 10½	1 11 6½	1 14 5½	- 3 11	- - 7	- 8 8	- 1 8	- 8 8	- 1 9½
TOTALS - - - £.	1,704 - 1½	1,701 13 10½	1,482 18 1½	1,483 15 11½	1,456 13 2½	1,669 3 3½	1,781 19 8	2,741 19 8½	145 9 1½	154 17 5	163 4 9½	122 5 9½

* Collection of Rates commenced at Scarriff, October 1845.

† Collection of Rates made at Hamilton Lock up to November 1844.

LOWER SHANNON, 1847.

STATIONS.	QUAYAGE.	WHARFAGE.	CRANAGE.	TOTALS.
	£. s. d.	£. s. d.	£. s. d.	£. s. d.
Querrin Quay - - -	9 12 3	5 10 1	- - -	15 2 4
Kilrush Pier - - -	163 12 6	19 2 7	13 9 -	196 4 1
Saleen Quay - - -	7 6 6	10 1 4	- - -	17 7 10
Kilteery - - -	- 9 6	- 4 7	- - -	- 14 1
Kildysart - - -	1 4 6	- 19 11½	- - -	2 4 5½
Clare - - -	51 12 6	52 8 5	- - -	104 - 11
TOTALS - - - £.	233 17 9	88 6 11½	13 9 -	335 13 8½

SCHEDULE (A.)

received during the Years 1840 to 1847 inclusive.

WHARFAGE.				TOTALS.							
1844.	1845.	1846.	1847.	1840.	1841.	1842.	1843.	1844.	1845.	1846.	1847.
£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
21 14 8	28 5 3 ³ / ₄	27 8 1	56 11 11	842 11 6 ¹ / ₂	697 16 9	535 5 8 ³ / ₄	522 10 5 ¹ / ₂	508 0 2 ¹ / ₄	508 - 0 3 ³ / ₄	734 - 0 1 ¹ / ₂	1,412 5 3 ³ / ₄
- 6 -	1 2 - ¹ / ₄	- 7 9	- 4 8	10 9 7 ¹ / ₂	10 16 - ¹ / ₂	08 2 11 ³ / ₄	25 9 - ¹ / ₄	12 1 11	15 11 - ¹ / ₄	16 6 0 ³ / ₄	20 10 1
- 16 8	- 12 0	1 11 3 ³ / ₄	- 18 4 ¹ / ₂	2 14 4	4 14 1 ³ / ₄	4 5 2	1 10 1 ¹ / ₂	2 17 6 ¹ / ₂	1 16 4	4 18 10 ³ / ₄	2 4 3 ³ / ₄
2 4 9	1 17 3	5 8 5 ³ / ₄	17 18 7 ¹ / ₂	23 13 0	32 2 4 ¹ / ₂	32 17 3	13 2 1 ³ / ₄	10 0 -	5 4 5	7 16 6 ³ / ₄	19 10 4 ¹ / ₂
- 4 3 ¹ / ₂	- 5 -	- 2 4	- - 4	1 8 5	1 15 4 ¹ / ₂	27 16 6 ¹ / ₄	10 12 4	2 8 7 ¹ / ₄	2 16 7 ¹ / ₄	2 5 7 ³ / ₄	1 16 10
29 17 9 ³ / ₄	24 7 2	28 19 8	29 9 4 ³ / ₄	163 13 3	354 10 5 ¹ / ₂	352 4 4	389 18 11 ¹ / ₂	392 3 1 ³ / ₄	405 5 0 ¹ / ₂	512 16 10	469 9 8 ¹ / ₂
- - -	- - 0 ¹ / ₂	- 8 8	3 17 7 ¹ / ₂	- - -	- - -	- - -	- - -	- - -	- - 0 ¹ / ₂	5 0 6 ¹ / ₂	7 3 9 ³ / ₄
10 0 2 ¹ / ₄	9 16 2 ³ / ₄	8 8 5 ³ / ₄	9 4 - ³ / ₄	181 - 3	213 - 11 ¹ / ₂	170 10 11	175 13 5	179 6 - ¹ / ₄	228 11 - ¹ / ₄	171 15 -	228 4 4 ³ / ₄
- 8 7 ¹ / ₂	- 6 5 ¹ / ₂	- 5 7	- 13 3 ¹ / ₄	3 3 9 ¹ / ₂	4 7 1 ³ / ₄	3 14 11	3 - 4 ¹ / ₂	2 17 9 ³ / ₄	5 12 0 ³ / ₄	9 10 10	8 13 7 ¹ / ₂
6 2 8 ¹ / ₂	6 18 1	8 - 7 ³ / ₄	11 11 4 ³ / ₄	292 13 8 ¹ / ₂	112 8 11 ¹ / ₂	100 13 10 ¹ / ₂	97 13 6	97 15 2 ³ / ₄	85 17 4 ¹ / ₄	63 7 9	124 2 4 ¹ / ₂
- - 2	- - 0 ¹ / ₄	- 1 5 ¹ / ₂	- - 7 ³ / ₄	5 1 5	102 12 4	167 7 10 ¹ / ₄	117 6 6 ³ / ₄	134 14 3 ¹ / ₂	160 12 - ¹ / ₄	220 1 5	457 0 3 ³ / ₄
- 9 8 ¹ / ₂	- 18 3	1 16 3	- 15 0 ¹ / ₂	75 16 1	9 - 11	4 16 7 ¹ / ₂	33 13 11 ¹ / ₂	32 19 0 ¹ / ₄	12 19 2 ³ / ₄	17 - 2 ¹ / ₂	29 0 2 ¹ / ₂
11 7 10 ¹ / ₂	16 3 4 ¹ / ₂	6 16 4 ¹ / ₂	9 12 1 ¹ / ₂	143 - 2	122 16 1	78 8 1 ¹ / ₂	77 18 10 ³ / ₄	110 11 2 ¹ / ₄	122 15 9	85 5 5	94 5 0 ¹ / ₂
8 18 8 ¹ / ₂	11 8 0 ³ / ₄	5 1 7	4 12 3 ¹ / ₂	- - -	- - -	- - -	- - -	6 18 - ¹ / ₄	15 10 4 ³ / ₄	8 7 11	0 9 6
3 9 0 ¹ / ₂	4 4 - ³ / ₄	2 6 3 ³ / ₄	2 15 4	17 6 8 ¹ / ₄	21 13 6 ¹ / ₄	32 13 7	24 3 5 ¹ / ₄	9 6 5	13 1 1 ¹ / ₄	5 2 - ³ / ₄	7 7 1 ¹ / ₂
- 7 5 ¹ / ₂	- 1 6	- 1 5	- 4 9 ¹ / ₄	10 7 11 ¹ / ₄	17 12 10	12 15 8 ¹ / ₂	16 11 4	16 5 3	8 3 10 ¹ / ₂	1 14 7	- 13 7 ³ / ₄
2 3 - ¹ / ₄	1 6 1 ³ / ₄	1 2 7	- 5 10 ¹ / ₂	11 4 2 ¹ / ₄	5 12 2 ¹ / ₂	5 8 3	8 7 4 ¹ / ₂	9 10 8 ¹ / ₄	7 11 11 ¹ / ₄	3 - 3	1 5 - ¹ / ₂
3 1 7 ³ / ₄	2 12 6	- 17 3 ¹ / ₄	- 4 -	9 12 1 ³ / ₄	8 11 4 ¹ / ₂	11 13 7	11 4 6	13 10 7	10 8 3	4 4 6 ¹ / ₄	1 9 11
- 1 10	- - -	- - -	- - -	4 1 4	1 11 8 ¹ / ₂	2 8 4	1 11 9	- 13 11 ¹ / ₂	- - -	- - -	- - -
10 4 7	5 13 8	- - -	- - 6	31 13 2 ¹ / ₄	30 - 8 ¹ / ₂	28 10 5 ¹ / ₂	20 16 11 ³ / ₄	19 - 3	15 6 1	7 9 11	4 2 2
- 12 1	1 - 4	- 3 -	- 1 8	2 12 11 ¹ / ₂	1 7 - ¹ / ₂	2 10 10 ¹ / ₂	- 12 11 ¹ / ₂	1 9 3 ¹ / ₂	1 13 10 ¹ / ₂	- 10 11	- 3 0 ¹ / ₂
- - 10	- - -	- 2 4	- - 4	8 4 5 ¹ / ₄	4 10 5	2 19 10	4 3 8	1 12 4 ¹ / ₂	1 14 5 ³ / ₄	- 6 3	- - 11
108 4 4 ¹ / ₂	118 19 8 ³ / ₄	99 9 7	149 2 11 ¹ / ₂	1,849 9 2 ¹ / ₂	1,356 11 3 ³ / ₄	1,646 2 11	1,556 1 0	1,504 17 7	1,779 3 -	1,881 9 3	2,891 2 8

ABSTRACT, 1847.

Limerick to Drummleague - - - - -	£. s. d.	2,891 2 8
Lower Shannon - - - - -		335 13 8 ¹ / ₂
TOTAL - - - - -	£.	3,226 16 4 ¹ / ₂
Deduct Receipts for December not remitted until 1848 - - - - -		384 1 11
Add, Sums paid on queries and fractional discrepancies between amounts in foregoing Table, and remittances	£. s. d.	3,042 14 5
Arrear of 1846, paid up in June - - - - -		- 12 6
Wharfage received at Park in October - - - - -		- 7 -
		- 2 8
		1 2 2
	£.	3,043 16 7

SCHEDULE (B.)—continued.

RETURN, showing the TONNAGE of the IMPORTS and EXPORTS at the Principal Stations on the River Shannon, from 1st January to 31st December 1847—continued.

ARTICLES.	STATIONS.															TOTALS 1847.	TOTALS 1846.	TOTALS 1845.	TOTALS 1844.	TOTALS 1843.	TOTALS 1842.	TOTALS 1841.	TOTALS 1840.						
	Limerick.	O'Brien's Bridge.	Killaloe.	Lough Derg, (Killaloe End.)	Scarriff.	Lough Derg, (Portumna End.)	Portumna.	Bangor.	Shannon Bridge.	Athlone.	Lecarrow.	Lanesborough.	Roskeel.	Drumna.	Carrick-on-Shannon.														
LOADED:	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.		
Slates	-	-	208 ½	967	-	1,293	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Tiles and Bricks	228 ½	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Coal	1,135	-	63	-	-	-	6 ½	-	0 ½	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Iron, not made into articles of merchandise	63	-	43 ½	2	2 ½	-	0 ½	8	-	1 ½	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Timber of all kinds	1,129 ½	2 ½	19	13 ½	7	2	8 ½	43 ½	6 ½	16 ½	20	-	46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Hay and Straw	4 ½	-	13	-	-	-	15 ½	74	-	-	2	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Ores and Minerals	-	-	359	-	-	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Salt	318 ½	-	7	-	0 ½	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Marble, foreign or manufactured	2	-	50 ½	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Manure	1,236 ½	28	113	44 ½	-	-	-	-	27	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Lime for building	21	-	-	-	-	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Building-stone and Flags	923 ½	-	6 ½	-	-	-	-	-	-	2,039 ½	-	-	64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Sand and Gravel	24	146	8	116 ½	-	-	-	-	-	-	-	-	292	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Turf	-	-	188 ½	2,066 ½	9	-	2,751 ½	-	-	-	-	-	0 ½	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2d Class per Ton.																													
Grain	17,126	632 ½	269 ½	22	4	-	983 ½	54 ½	-	618 ½	-	0 ½	28	91 ½	-	10,891	9,157	11,060 ½	11,306 ½	8,253 ½	8,534 ½	7,475	7,287						
Flour, Meal, Malt, and Starch	5,128 ½	721 ½	380 ½	68 ½	8 ½	313	112	306 ½	7 ½	263 ½	2 ½	1 ½	-	4	7,318	3,446	5,354	3,445 ½	5,761	5,138	7,327 ½	4,249 ½							
Butter	70 ½	-	-	-	-	3 ½	1	506 ½	-	104 ½	-	-	-	-	75	3,446	5,354	126 ½	100 ½	15	131	93 ½							
Black Cattle and Horses	0 ½	-	53 ½	-	-	6 ½	15	0 ½	-	16 ½	-	-	-	-	101	371 ½	269	142 ½	298	310	154 ½	73 ½							
Sheep	0	-	30	1 ½	-	14	19 ½	-	-	5	-	-	-	-	71	101	157 ½	71	65 ½	67	147 ½	68 ½							
Pigs	6	-	1	-	-	0	23 ½	-	-	8 ½	-	-	-	-	40	623	479	260	532	298	163 ½	139							
Salted Provisions	241 ½	-	9 ½	0 ½	-	55 ½	22 ½	3 ½	-	4 ½	-	-	-	-	337	879	837 ½	483 ½	489	411 ½	656 ½	346 ½							
Potatoes and other Vegetables	10 ½	-	0 ½	1 ½	-	6 ½	8	26 ½	-	7 ½	-	-	-	-	61	321 ½	211	178 ½	328 ½	481	326	247							
Groceries	0	-	-	-	-	-	-	-	-	-	-	-	-	-	0 ½	-	-	-	4 ½	-	0 ½	2 ½							
Wines and Spirits	24 ½	-	-	-	-	-	-	-	-	-	-	-	-	-	24	177 ½	164 ½	19	4	0 ½	11 ½	1							
Porter, Beer, and Ale	-	-	2 ½	-	-	-	0 ½	1 ½	-	22	-	-	-	-	20	1 ½	1 ½	9	1	0 ½	11	-							
Bale-goods, Hardware and General Merchandise	2,393 ½	44 ½	406 ½	65 ½	0 ½	94 ½	190	70	6	741 ½	6	-	-	-	3,964 ½	3,370 ½	3,267	2,571 ½	2,355	2,470	2,241 ½	3,117 ½							
Tobacco	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27 ½	-	1	8 ½	10 ½	-	-							
Military Baggage	3	-	-	-	-	-	-	-	2	148 ½	-	-	64 ½	-	218 ½	10	85 ½	16 ½	115	37	71 ½	151 ½							
Machinery	40 ½	-	1 ½	-	-	-	12 ½	-	-	4 ½	-	-	-	-	65	110 ½	732 ½	465 ½	359	139 ½	80 ½	-							
TOTALS	29,481 ½	1,634 ½	2,298 ½	3,369 ½	39 ½	1,823	4,171 ½	589 ½	23 ½	1,032 ½	2,068	37 ½	528 ½	155 ½	4	48,096 ½	39,483	53,423 ½	39,920 ½	54,196 ½	39,880 ½	37,334 ½	31,178						

SCHEDULE (C.)

RETURN, showing the AMOUNT of TRAFFIC passing to and from the River *Shannon*, through the Grand and Royal Canals.

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 - - - - -	65	6	71	1,036	-	1,036	
Tiles and Bricks - - - - -	623 $\frac{3}{4}$	-	623 $\frac{3}{4}$	40	-	40	
Coal - - - - -	1,725	12	1,737	7 $\frac{1}{2}$	-	7 $\frac{1}{2}$	
Iron, not made into articles of merchandise -	165 $\frac{3}{4}$	-	165 $\frac{3}{4}$	3 $\frac{1}{2}$	6	9 $\frac{1}{2}$	
Timber of all kinds - - - - -	379 $\frac{1}{2}$	16	395 $\frac{1}{2}$	570 $\frac{1}{2}$	-	570 $\frac{1}{2}$	
Hay and Straw - - - - -	-	-	-	280 $\frac{1}{2}$	-	280 $\frac{1}{2}$	
Ores and Minerals - - - - -	24	-	24	462 $\frac{3}{4}$	-	462 $\frac{3}{4}$	
Salt - - - - -	178 $\frac{1}{2}$	-	178 $\frac{1}{2}$	38 $\frac{3}{4}$	-	38 $\frac{3}{4}$	
Marble, foreign or manufactured - - - - -	109 $\frac{1}{2}$	-	109 $\frac{1}{2}$	36 $\frac{1}{2}$	-	36 $\frac{1}{2}$	
Manure - - - - -	252 $\frac{1}{2}$	-	252 $\frac{1}{2}$	-	-	-	
Lime for Building - - - - -	-	-	-	-	-	-	
Building Stone and Flags - - - - -	25 $\frac{1}{2}$	-	25 $\frac{1}{2}$	17 $\frac{3}{4}$	-	17 $\frac{3}{4}$	
Sand and Gravel - - - - -	-	-	-	8	28	36	
Turf - - - - -	340 $\frac{3}{4}$	-	340 $\frac{3}{4}$	81 $\frac{3}{4}$	-	81 $\frac{3}{4}$	
Grain - - - - -	4,843 $\frac{1}{4}$	-	4,843 $\frac{1}{4}$	6,081	85 $\frac{3}{4}$	6,166 $\frac{3}{4}$	
Flour, Meal, Malt and Starch - - - - -	5,978	-	5,978	2,757 $\frac{1}{2}$	-	2,757 $\frac{1}{2}$	
Butter - - - - -	-	-	-	75 $\frac{1}{2}$	-	75 $\frac{1}{2}$	
Black Cattle and Horses - - - - -	5	-	5	90 $\frac{1}{2}$	-	90 $\frac{1}{2}$	
Sheep - - - - -	-	-	-	54	-	54	
Pigs - - - - -	-	-	-	22 $\frac{1}{2}$	-	22 $\frac{1}{2}$	
Salted Provisions - - - - -	119 $\frac{3}{4}$	-	119 $\frac{3}{4}$	287 $\frac{1}{2}$	-	287 $\frac{1}{2}$	
Potatoes and other Vegetables - - - - -	43 $\frac{3}{4}$	-	43 $\frac{3}{4}$	34 $\frac{1}{2}$	-	34 $\frac{1}{2}$	
Groceries - - - - -	77 $\frac{3}{4}$	-	77 $\frac{3}{4}$	-	-	-	
Wines and Spirits - - - - -	-	-	-	24 $\frac{1}{2}$	-	24 $\frac{1}{2}$	
Porter, Beer, and Ale - - - - -	157	-	157	$\frac{1}{2}$	-	$-\frac{1}{2}$	
Bale-goods, Hardware and General Merchandise	10,707	2 $\frac{1}{2}$	10,709 $\frac{1}{2}$	3,324 $\frac{1}{2}$	-	3,324 $\frac{1}{2}$	
Tobacco - - - - -	-	-	-	-	-	-	
Military Baggage - - - - -	170 $\frac{1}{2}$	-	170 $\frac{1}{2}$	108 $\frac{1}{2}$	-	108 $\frac{1}{2}$	
Machinery - - - - -	115	-	115	56 $\frac{1}{2}$	-	56 $\frac{1}{2}$	
TOTALS - - - - -	26,106 $\frac{1}{2}$	36 $\frac{1}{2}$	26,143	15,498 $\frac{3}{4}$	119 $\frac{3}{4}$	15,618 $\frac{1}{2}$	
	Yrs.						
Comparative Return of Traffic passing to and from the River Shannon through the Grand and Royal Canals - - - - -	1840	12,877 $\frac{3}{4}$	1,389 $\frac{1}{2}$	14,267	14,548	1,919	16,721
	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
	1842	12,823 $\frac{3}{4}$	1,362	14,185 $\frac{1}{2}$	13,354 $\frac{1}{2}$	3,118 $\frac{1}{2}$	16,472 $\frac{1}{2}$
	1843	11,173 $\frac{1}{2}$	1,305 $\frac{3}{4}$	12,479	13,532 $\frac{1}{2}$	2,683 $\frac{1}{2}$	16,215 $\frac{1}{2}$
	1844	9,446 $\frac{3}{4}$	1,478	10,924 $\frac{1}{2}$	13,863 $\frac{1}{2}$	975	14,838 $\frac{1}{2}$
	1845	11,687 $\frac{1}{2}$	1,290	12,977 $\frac{1}{2}$	17,285 $\frac{3}{4}$	1,275 $\frac{1}{2}$	18,561
	1846	15,352 $\frac{3}{4}$	218 $\frac{1}{2}$	15,571	13,581 $\frac{1}{2}$	251 $\frac{1}{2}$	13,833
1847	26,106 $\frac{1}{2}$	36 $\frac{1}{2}$	26,143	15,498 $\frac{3}{4}$	119 $\frac{3}{4}$	15,618 $\frac{1}{2}$	

Office of Public Works,
Custom-house, Dublin,
16 June 1848.

E. Adams, Accountant.

SCHEDULE (D.)

RETURN, showing the TONNAGE of the IMPORTS and EXPORTS at the Stations on the Lower Shannon, from 1st January to 31st December 1847.

ARTICLES.	STATIONS.						TOTALS.
	Querrin Quay.	Kilrush Pier.	Saleen Quay.	Kilteery Quay.	Kildysart Quay.	Clare Quay.	
	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>
LANDED:							
Slates - - - - -	8	-	-	-	-	55	63
Tiles and Bricks - - - - -	-	3	7 ½	-	-	26	36 ½
Coal - - - - -	-	100	-	-	-	3,082	3,182
Iron, not made into articles of merchandise.	-	19 ½	-	-	-	268	287 ½
Timber of all kinds - - - - -	-	34	7	-	2	525	568
Hay and Straw - - - - -	23 ¾	-	-	-	-	-	23 ¾
Ores and Minerals - - - - -	-	-	-	-	-	-	-
Salt - - - - -	-	240	12 ½	-	-	307	559 ½
Marble, foreign or manufactured - - - - -	-	-	-	-	-	-	-
Manure - - - - -	-	-	-	-	81	15	96
Lime for building - - - - -	-	50	-	-	-	-	50
Building Stone and Flags - - - - -	-	60	-	-	-	105	165
Sand and Gravel - - - - -	-	80	-	-	-	35	115
Turf - - - - -	-	-	-	-	-	126	126
Grain - - - - -	10 ¾	1,814	-	4	10	4,536	6,374 ¾
Flour, Meal, Malt, and Starch - - - - -	60 ¼	7,166 ½	817	-	-	7,320	15,363 ¾
Butter - - - - -	-	5	-	-	-	-	5
Black Cattle and Horses - - - - -	- ¾	27 ½	-	10 ½	-	-	38 ¾
Sheep - - - - -	-	- ½	-	1 ½	-	-	2
Pigs - - - - -	-	- ½	- ½	-	-	-	1
Salted Provisions - - - - -	-	140 ¼	18 ½	-	-	10	177 ¾
Potatoes and other Vegetables - - - - -	-	-	-	-	-	-	-
Groceries - - - - -	-	253	-	-	-	-	253
Wines and Spirits - - - - -	-	193 ¼	-	-	-	-	193 ¼
Porter, Beer, and Ale - - - - -	-	227 ½	-	-	-	-	227 ½
Bale-goods, Hardware, and General Merchandise.	-	344 ½	30	-	- ¾	21	396
Tobacco - - - - -	-	-	-	-	-	-	-
Military Baggage - - - - -	-	-	-	-	-	-	-
Machinery - - - - -	-	-	-	-	1	15	16
TOTALS - - - - -	103 ½	10,758 ½	893	16	94 ¾	16,455	28,320 ¾
	Yrs.						
Comparative Return of Tonnage of Articles landed at the Piers and Quays above named, from commencement of collection by the Commissioners - - - - -	1841	-	6,419	-	-	-	6,419
	1842	-	3,960	-	-	-	3,960
	1843	416	3,941 ½	-	255	64	4,676 ½
	1844	70	2,832	20 ½	676	9 ½	4,477 ½
	1845	78 ½	4,270 ¾	617 ½	375	191 ¾	6,086
	1846	36 ¾	6,253 ½	614 ½	428 ½	154 ¾	10,801
1847	103 ½	10,758 ½	893	16	94 ¾	16,455	

Office of Public Works,
Custom-house, Dublin,
16 June 1848.

E. Adams, Accountant.

SCHEDULE (D).—continued.

ARTICLES.	STATIONS.						TOTALS.
	Querrin Quay.	Kilrush Pier.	Saleen Quay.	Kilteery Quay.	Kildysart Quay.	Clare Quay.	
LOADED :	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Slates - - - - -	—	—	—	—	—	—	—
Tiles and Bricks - - - - -	—	3	—	—	—	—	3
Coal - - - - -	—	—	—	—	—	—	—
Iron, not made into articles of merchandise.	—	40	—	—	—	—	40
Timber of all kinds - - - - -	— $\frac{1}{2}$	12	20	—	—	14	46 $\frac{1}{2}$
Hay and Straw - - - - -	—	—	—	—	—	2	2
Ores and Minerals - - - - -	—	—	—	—	—	197	197
Salt - - - - -	—	5	—	—	—	20	25
Marble, foreign or manufactured - - - - -	—	—	—	—	—	—	—
Manure - - - - -	—	—	—	—	—	—	—
Lime for building - - - - -	—	30	—	—	—	—	30
Building Stone and Flags - - - - -	—	—	—	—	—	2,757	2,757
Sand and Gravel - - - - -	—	1,815	—	—	—	—	1,815
Turf - - - - -	2,717 $\frac{1}{4}$	—	682	—	—	—	3,399 $\frac{1}{4}$
Grain - - - - -	1 $\frac{1}{2}$	2,680 $\frac{1}{2}$	1,970 $\frac{1}{2}$	—	6 $\frac{3}{4}$	2,676	7,335
Flour, Meal, Malt, and Starch - - - - -	—	117	65	—	—	420	602
Butter - - - - -	—	133 $\frac{1}{2}$	—	—	2	—	135 $\frac{1}{2}$
Black Cattle and Horses - - - - -	1	58 $\frac{1}{2}$	17 $\frac{1}{2}$	— $\frac{1}{2}$	20 $\frac{3}{4}$	1 $\frac{1}{2}$	99 $\frac{3}{4}$
Sheep - - - - -	— $\frac{1}{4}$	11 $\frac{3}{4}$	—	—	18 $\frac{1}{2}$	5 $\frac{1}{2}$	36
Pigs - - - - -	—	199 $\frac{1}{4}$	—	—	4	1	204 $\frac{1}{4}$
Salted Provisions - - - - -	—	—	—	—	—	21	21
Potatoes and other Vegetables - - - - -	9 $\frac{1}{2}$	4	—	—	—	10	23 $\frac{1}{2}$
Groceries - - - - -	—	—	—	—	—	—	—
Wines and Spirits - - - - -	—	—	—	—	—	—	—
Porter, Beer, and Ale - - - - -	—	—	—	—	—	—	—
Bale-goods, Hardware, and General Merchandise.	—	226 $\frac{1}{2}$	4	—	— $\frac{1}{2}$	—	231
Tobacco - - - - -	—	—	—	—	—	—	—
Military Baggage - - - - -	—	—	—	—	—	—	—
Machinery - - - - -	—	—	—	—	—	—	—
TOTALS - - - - -	2,729 $\frac{3}{4}$	5,336	2,759	— $\frac{1}{2}$	52 $\frac{1}{2}$	6,125	17,002 $\frac{3}{4}$
Yrs.							
Comparative Return of Tonnage of Articles loaded at the Piers and Quays above named, from commencement of collection by the Commissioners.	1841	6,405	—	—	—	—	6,405
	1842	6,201 $\frac{3}{4}$	—	—	—	—	6,201 $\frac{3}{4}$
	1843	2,870	7,520	—	54 $\frac{1}{2}$	30 $\frac{1}{2}$	10,475
	1844	2,660 $\frac{3}{4}$	5,222 $\frac{1}{4}$	340 $\frac{3}{4}$	9 $\frac{1}{2}$	17 $\frac{3}{4}$	10,892 $\frac{1}{4}$
	1845	4,648	7,480	2,914 $\frac{3}{4}$	49	30	26,127
	1846	2,716 $\frac{3}{4}$	7,541 $\frac{3}{4}$	3,244	89	47 $\frac{1}{4}$	23,152 $\frac{1}{4}$
	1847	2,729 $\frac{3}{4}$	5,336	2,759	— $\frac{1}{2}$	52 $\frac{1}{2}$	17,002 $\frac{3}{4}$

Office of Public Works,
Custom-house, Dublin,
16 June 1848.

E. Adams, Accountant.

SCHEDULE (E.)

RETURN, showing the Number of PASSENGERS that Embarked at the under-mentioned Places on the River Shannon by the City of Dublin Steam Packet Company's Boats, from 1st January to the 31st December 1847.

MONTH.	Limerick, up.	Killaloe.	Williams- town.	Portumna.	Banagher.	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 - - -	628½	269	88	201	75	278½	31½	1,571½
February - - -	656½	287	112	177½	66½	331½	62	1,693
March - - -	936½	420½	148½	344½	121	336½	35	2,348½
April - - -	967½	570½	164½	379½	99½	383	53	2,617½
May - - -	957½	547	120	341	87½	403	27	2,483
June - - -	540	500½	136	235	55½	894	19½	2,380½
July - - -	833	456½	108	272	140½	483½	24	2,317½
August - - -	738	323½	97½	200	23½	511	15½	1,909
September - - -	761½	298½	90	204½	107½	474	45	1,981
October - - -	684	368½	92	213½	165	329½	28½	1,881
November - - -	524	315	95½	153½	40	334½	67	1,519½
December - - -	328½	207½	55	108	24	324½	18	1,065½
TOTALS - - -	8,555½	4,570	1,307	2,830	1,005½	5,088½	416	23,767½

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

Office of Public Works,
Custom-house, Dublin,
16 June 1848.

J. C. Walker, Sec.

SCHEDULE (F.)

TABLE, showing the AVERAGE NUMBER of PERSONS employed on the several WORKS, with the Periods of Employment, during the Year 1847.

NAME OF WORK.	PERIOD.	Number of Working Days.	Average Number of Persons employed Daily.	Equivalent Number of Days' Work.
Foynes - - -	1 Jan. to 31 Dec. 1847	307	116	35,612
Limerick Navigation - - -	7 Jan. to 31 Dec. "	307	10	3,131
Scarriff River - - -	21 June to 10 July "	18	6	105
Garrymore - - -	15 Sept. to 31 Oct. "	40	10	391
Tullymore - - -	12 July to 14 Sept. "	62	10	662
Portumna - - -	8 Feb. to 7 Mar. "	24	10	232
Sundry Shoals on which the Dredgers are employed -	1 Jan. to 31 Dec. "	313	18	5,663
Clerhaun - - -	29 Mar. to 6 Nov. "	192	247	47,343
Excavation below Weir at Athlone - - -	19 July to 9 Oct. "	72	41	2,938
Athlone Lock Works - - -	1 Jan. to 31 Dec. "	313	96	30,055
Curreen - - -	January to December "	199	111	22,064
Lanesboro' - - -	- - - - -	6	20	122
Kilnacarrow - - -	- - - - -	4	21	83
Erra - - -	- - - - -	20	19	386
Tarmonbarry - - -	- - - - -	313	13	4,118
Tarmonbarry (Embankment and Back Drain) - - -	16 April to " - - -	179	68	12,192
Cloondrah (Camlin River) -	- - - - -	77	53	4,117
Cloondrah Canal - - -	- - - - -	118	90	10,573
Leitrim - - -	1 July to 31 Dec. "	157	154	24,173
Carrick-on-Shannon - - -	1 Jan. to 31 Dec. "	313	15	4,964
Boyle River - - -	28 June to 16 Oct. "	97	90	8,727
Knockvicar - - -	1 Jan. to 31 Dec. "	313	80	25,249
Cootehall - - -	1 June to 31 Dec. "	183	136	24,894
Annalecky and Doctor's Weir - - -	20 Sept. to 14 Nov. "	48	130	6,272
Grose's Island - - -	1 July to 31 Dec. "	157	46	7,256
Cornacarrow - - -	1 July to 18 Sept. "	69	51	3,552
Doyle's Island - - -	4 Aug. to 19 Sept. "	40	40	1,620
Kilbride - - -	12 Aug. to 26 Aug. "	13	22	289
Jamestown River and Canal	1 Jan. to 31 Dec. "	313	180	56,570
Lough Tap (Dancing Stone)	1 July to 20 Sept. "	70	51	3,600
Derrycarne - - -	16 July to 16 Oct. "	80	68	5,456
Rooskey - - -	1 Jan. to 31 Dec. "	313	90	28,409
Bird Island - - -	10 May to 31 July "	70	70	12,051
Cloonen Cox and Cloonfad	1 Jan. to 23 May "	126	193	24,429
Lough Bodarrig - - -	19 July to 20 Aug. "	28	69	1,935
Carrigeen - - -	7 May to 22 Aug. "	91	42	3,881
Carnadoe - - -	1 Oct. to 7 Nov. "	32	42	1,350
TOTAL - - -		5,077	2,630	424,467

J. C. Walker, Sec.

SCHEDULE (G.)

RETURN of Works performed by the *Victoria*, *Albert*, *Prince*, and *Princess Alice* Dredgers,
from 1st January to 31st December 1847.

NAME of DREDGER.	Name 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, or A.	Garrymore - - -	112	2,031	10,150	90	-- tenacious gravel, with large number of boulder stones.
	Shoals between Garrymore and Bishop's Island -	40	621	6,414	160 $\frac{1}{2}$	gravel and sand.
	Shannon Bridge - - -	-	432	-	-	-- undergoing repairs from 7 July to 6 September 1847.
	Clerhaun - - -	66	1,083	5,780	118	-- about three-fourths of the quantity dredged was clay in stanks, the remainder hard gravel.
Total for Victoria Dredger - - -		218	4,167	22,353	368 $\frac{1}{4}$	
Albert, or B.	Ballynatave - - -	37	606	Stanks. 179 $\frac{3}{4}$ Ex. 7,283	201 $\frac{1}{2}$	-- sand gravel, clay, and stones; good dredging stuff.
	Tullymore - - -	9	180			
	Athlone - - -	76	1,913	26,294 $\frac{1}{2}$	345 $\frac{3}{4}$	-- sand, gravel, and clay; excellent dredging stuff.
	Wren Island - - -	129	5,091	5,499 $\frac{1}{2}$	42 $\frac{1}{2}$	-- gravel and stones, very hard.
Total for Albert Dredger - - -		251	7,790	39,598	627 $\frac{1}{2}$	
Prince, or C.	Ballynatave - - -	1	14	45	45	sand and gravel.
	Shannon Bridge - - -	-	219	-	-	vessel undergoing repairs.
	Garrymore - - -	4	66	91	23	hard gravel and stones.
	Wren Island - - -	68	768	844	12 $\frac{1}{2}$	very hard gravel and stones.
	Athlone (below Weir) -	40	523	2,142	53 $\frac{1}{2}$	gravel and clay.
	Athlone (above Weir, in Lock Contract) - -	138 $\frac{1}{2}$	1,625	9,170	66	-- gravel and clay; some very hard stuff dredged.
	Athlone (above Weir, in Bridge Contract) -	1	11	30	30	clay and gravel.
Total for Prince Dredger - - -		252 $\frac{1}{2}$	3,226	12,322	230	
Princess Alice, or D.	Curreen - - -	173	2,633	26,409	150	
	Lanesboro' - - -	6	122	628	105	
	Kilnacarrow - - -	4	86	294	73	
	Erra - - -	20	386	1,553	77	
Total for Princess Alice Dredger - -		203	3,227	28,884	405	

J. C. Walker, Secretary.

SCHEDULE (H.)

RETURN, showing the QUANTITY of MATERIALS delivered on Works from 1st January to 31st December 1847.

NAME OF WORKS.	STONE.							TIMBER.			IRON.		Roman Cement.	Concrete.	Puddle.	Lime.	Coals.	Turf.	Patent Felt.	Pig Lead.	Gun-powder.	Patent Fuse.
	Fair Dressed Ashlar.	Rough Ashlar.	Rubble Masonry.	Rubble Stone.	Lime Stone.	Pitching or Paving.	Mooring Posts.	Foreign.	Native.	Planks.	Wrought.	Cast.										
	Cube ft.	Cube ft.	Cube yds.	Tons.	Tons.	Superfic. yards.	No.	Cube ft.	Cube ft.	Lineal feet.	Cwt.	Tons.										
Foynes	8,915	-	1,223	3,944	440	91	-	1,179	850	4,560	180	30	9	117	-	1,135	41	-	384	-	450	87
Portumna	-	-	-	-	-	-	-	460	-	-	1. 2. 2.	-	-	-	-	-	-	-	-	-	-	-
Garrymore	-	-	-	-	-	-	-	120	40	-	10	-	-	-	-	-	-	-	-	-	30	40
Sundry Shoals used for Dredging in the Workshop at Shannon Bridge, and in the Repairs of Dredging Barges	-	-	-	-	-	-	-	1,200	480	-	300	9	-	-	-	-	90	-	1,080	-	-	-
Clerham	-	-	500	-	-	700	-	800	2,400	250	100	8	-	-	-	340	150	20,000	-	0	4,000	570
Tullymore	-	-	-	-	-	-	-	-	-	-	30	-	-	-	-	-	-	-	-	-	80	60
Wren Island	-	-	-	-	-	-	-	-	-	-	20	-	-	-	-	-	-	-	-	-	40	30
Athlone Lock Works	8,750	22,085	1,200	1,308	200	230	6	-	-	-	76	6	2	-	1,230	2,130	45	6,050	500	63	-	36
Carreen	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	02	2,400	-	-	-	-
Tarmonbarry	5,535	800	292	-	60	-	5	300	60	130	-	-	-	-	40	40	-	450	-	-	-	-
Tarmonbarry (Embankment and Back Drain)	-	-	-	-	-	-	-	-	30	275	9	-	-	-	-	70	-	-	-	-	6½	114
Cloondrah (Camlin River)	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	151	-	-	-	-	-	12
Cloondrah Canal	-	-	1,044	-	-	2,400	-	-	-	180	4	-	-	-	-	64	-	-	-	-	-	12
Leitrim	-	-	-	-	-	-	-	970	344	520	56	7	-	-	20	18	-	151	-	-	46	12
Knockvicar	7,900	9,500	500	-	300	1,400	-	700	80	-	-	-	-	1,200	250	115	-	-	-	-	970	100
Cootehall	3,550	4,800	1,020	-	150	-	-	600	240	-	-	-	-	800	540	8	2,750	-	-	-	550	60
Grose's Island	-	-	-	-	-	-	-	-	-	268	30	-	-	-	-	13	-	-	-	-	10	4
Cornacarrow	-	-	-	-	-	-	-	-	-	120	-	-	-	-	-	-	-	-	-	-	6	2
Doyle's Island	-	-	-	-	-	-	-	-	-	65	-	-	-	-	-	-	-	-	-	-	-	-
Killride	-	-	-	-	-	-	-	-	-	33	-	-	-	-	-	-	-	-	-	-	-	-
Janestown River and Canal	20,727	6,848	2,509	-	800	-	5	1,141	3,000	1,200	0½	3	5	28	10,429	500	50	400	-	-	3,000	750
Lough Tap (Dancing Stones)	-	-	-	-	-	-	-	-	150	-	-	-	-	-	-	-	-	-	-	-	-	-
Derrycarne	-	-	-	-	-	-	-	-	000	700	-	-	-	-	-	-	-	-	-	-	-	-
Roeskey	-	3,495	146	200	200	300	2	-	1,500	1,100	1½	-½	-	60	120	10	1,500	-	-	-	800	35
Bird Island	-	-	-	-	-	-	-	-	120	400	-	-	-	-	-	-	-	-	-	-	-	-
Clooneen Cox and Cloonfad	-	-	-	-	-	-	-	-	300	500	-	-	-	-	-	-	-	-	-	-	-	-
Lough Bodarrig	-	-	-	-	-	-	-	-	40	400	-	-	-	-	-	-	-	-	-	-	-	-
	55,386	48,200	9,084	5,512	2,150	5,883	18	7,470	10,234	10,709	824. 1. 2.	60½	10	145	13,759	5,372	602	33,550	2,115	00	0,088½	1,912

J. C. Walker, Secretary.

IMPROVING THE NAVIGATION OF THE SHANNON.

SCHEDULE (I.)

RETURN of the Quantity of DREDGING and EXCAVATION, also the Length of DAMS inclosing the Parts excavated, and the Number and Description of ENGINES used on the WORKS, from 1st January to 31st December 1847.

NAMES OF WORKS.	Dredging.			Excavation.		Total Quantity Dredged and Excavated.	Length of Dams inclosing the Parts to be 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.	Cubic yards.	Cubic yds.								
	<i>Cubic yards.</i>	<i>Cubic yds.</i>	<i>Cubic yds.</i>	<i>Cubic yards.</i>	<i>Lineal yards.</i>								<i>Gallons.</i>
Foynes - - - - -	- - -	25,319	- -	25,319	345	- -	- - - - -	- -	- -	- -	5	- - Three of 12 × 8, and two of 6 inches diameter.	236
Limerick Navigation - - - - -	2,256	2,002	- -	4,858	-	- -	- - - - -	- -	- -	- -	- -	- -	- -
Scarriff River - - - - -	216	- -	- -	216	-	- -	- - - - -	- -	- -	- -	- -	- -	- -
Clerhann - - - - -	5,780	17,000	7,908	30,847	1,000	5	Steam-engines - - -	14 12 12 8 4	2 4 5 2 4	2 4 5 2 4	ft. in. 16 diameter, 3 1½ length of stroke 14 " 2 6 " - - {Four of 14 } 2 6 " - - {One of 12 } 2 6 " - - 14½ " 2 4 " - - {Two of 11 } 2 1 " - - {Two of 9½ } 2 1 " - -	5,000	
							Worked by 18 men in 24 hours	- -	- -	- -	1	Wooden, 13 × 8 sectional area	124
Shoal below Weir at Athlone - - - - -	28,436	8,800	- -	37,236	-	- -	Ditto - 12 - ditto	- -	- -	- -	1	Metal, 8½ diameter	86
Athlone Lock Works - - - - -	9,170	3,880	- -	13,050	- - -	1	Steam-engine - - -	10	3	3	Metal, 14 diameter	1,313	
						3	Water wheels - - -	35	6	6	{Wooden pumps, four of 17 × 20 sectional area of working barrel - - - Two of 14 × 15 - - - - -	3,154 867	
												TOTAL - -	5,334
Correen - - - - -	26,400	21,474	- -	47,883	1,403	1	High pressure - - -	6	2	2	14 inches diameter - - - - -	800	
Lanesboro' - - - - -	628	- -	- -	628	-	- -	- - - - -	- -	- -	- -	- -	- -	- -
Kilnacarrow - - - - -	204	- -	- -	204	-	- -	- - - - -	- -	- -	- -	- -	- -	- -
Erra - - - - -	1,553	- -	- -	1,553	-	- -	- - - - -	- -	- -	- -	- -	- -	- -

30 NINTH REPORT OF THE COMMISSIONERS FOR

