

back to New Orleans. As a temporary expedient the plan adopted seemed admirable for the purpose.

During the coming season it is proposed to employ the dredge-boat in dredging and maintaining a temporary channel through the obstructions. Advices from there show the work to be in a satisfactory condition and progressing favorably.

PERMANENT IMPROVEMENT.

The permanent improvement of the mouth of Red River has been under consideration for very many years past by the board of State engineers of Louisiana, and the plan as best adapted to the immediate locality seemed to be that as presented in my annual report for last year. The estimate presented therewith was based upon that plan and from information obtained from reports by the State engineers, and from personal examinations made of the locality. The plan was to build a dam across the channel between the head of the Atchafalaya and the head of Turnbull's Island, thus turning the water of Old River into and through the upper channel, and thence into the Mississippi, while a channel could at the same time be maintained between the Mississippi and the Atchafalaya through Lower Old River.

As no data had previously been furnished upon which to base a detailed plan, &c., authority was given to make a thorough instrumental survey of the locality. This was commenced in July, but the yellow fever and high water caused a suspension of the work for a time. It was resumed in December and finished in January. The results of the survey are embraced in 31 sheets of drawings and sections.

The data obtained from this exhaustive survey reveal a very different state of affairs existing at the mouth of the Red River from that generally supposed, and the result is very unsatisfactory so far as the solution of the problem of a permanent outlet through the mouth of Red River is concerned within reasonable limits of expense. Temporary expenditures to keep the channel open would undoubtedly have to be resorted to each year. Before deciding definitely upon a plan at the immediate locality, I concluded to investigate the plan proposed many years ago by Mr. J. K. Duncan, State engineer of Louisiana, which was to close the mouth of Old River, between the Atchafalaya and the Mississippi, and lock the Plaquemine, and make that the route via Grand River and the Atchafalaya to Red River.

Accordingly, last month I sent a party to survey the Plaquemine, for the purpose of getting the desired information. The party returned last week and are now engaged in working up their notes.

This latter plan has many excellent features, and if the survey sustain Duncan's views, I think it will lead to a solution of the problem.

At the earliest possible moment I will submit to the department a special report upon this important improvement, with plans and estimates. I regret being unable to embrace it all in the annual report.

COMMERCIAL STATISTICS.

All the cotton and freight transported to and from New Orleans, as shown by the reports for removing raft in Red River, improving Ouachita River, Arkansas, and Louisiana, and removing snags and other obstructions from Red River, Louisiana, passed out through the mouth of Red River. In addition to this the Opelousas boats brought out 41,627 bales of cotton last season, besides a large amount of sugar, mo-

lasses, cotton-seed, hides, cattle, &c. Then the Atchafalaya boats brought out about one-quarter as much as the Opelousas boats. To all this should be added a proportionate amount of return-freight. There are also a great many rafts (logs for lumber and wood) brought out through the mouth of Red River.

For port of entry and amount of revenue collected, see report for removing snags and other obstructions from Red River, Louisiana.

The former appropriations are as follows:

| | |
|------------------------------------|-----------|
| By act approved June 18, 1878..... | \$150,000 |
| By act approved March 3, 1879..... | 40,000 |

Money statement.

| | |
|--|--------------|
| July 1, 1878, amount available..... | \$150,000 00 |
| Amount appropriated by act approved March 3, 1879..... | 40,000 00 |
| | \$190,000 00 |
| July 1, 1879, amount expended during fiscal year..... | 16,274 06 |
| July 1, 1879, amount available..... | 173,725 94 |

L 4.

REMOVING SNAGS AND OTHER OBSTRUCTIONS FROM RED RIVER, LOUISIANA.

Operations were carried on during the summer and fall months of last year with the snagboat O. G. Wagner, which had been temporarily detached from its regular stream, the Ouachita. This was done from the fact that the appropriation for Red River was not sufficient to provide an outfit and allow enough funds remaining to carry on the work.

This important stream is full of wrecks, snags, and other obstructions, and should be provided with a snagboat for the especial purpose of removing them. In my report of last year I earnestly recommended the building of such a boat, and repeat the same here. The immense commerce of the river will warrant the expenditure. As it is now, I have but one light-draught boat, and it is required upon several streams, and I cannot do full justice to all.

The work accomplished last year was of the greatest benefit to the navigation of the stream, but it will take at least four seasons' work to completely clear the river of its existing obstructions. At the same time, the work must be continuous, owing to the nature of the banks of the river, which, being caving, add new obstructions every flood.

For the work executed during the past season, I present below the report of Captain Justin Straszer, in charge of the snagboat.

During the coming season it is proposed to place the *Wagner* in the river for a short season's work.

For the improvement of the river I estimate as follows:

| | |
|---|----------|
| Building light-draught snagboat..... | \$60,000 |
| 8 month's work, at \$3,000 per month..... | 24,000 |

The former appropriations are:

| | |
|------------------------------------|----------|
| By act approved June 18, 1878..... | \$25,000 |
| By act approved March 3, 1879..... | 22,500 |

COMMERCIAL STATISTICS.

Red River is navigated mostly by the steamers belonging to the New Orleans and Red River Transportation Company.

The amount of freight carried during the fiscal year ending June, 30, 1879, is as follows:

| | |
|----------------------------------|---------|
| Bales of cotton | 145,633 |
| Sacks of cotton-seed | 170,000 |
| Head of cattle | 19,000 |
| Sacks of oil-cake | 24,000 |
| Sacks of oil-meal | 4,000 |
| Barrels of cotton-seed oil | 4,300 |

There is also transported a large quantity of sugar and molasses from the lower Red River parishes.

During the cotton season the company send out from New Orleans 6 steamboats per week, which carry on an average 1,200 tons each trip, of general merchandise, to the Red River country and Texas.

The above works are situated in the third collection-district of Louisiana. The port of entry is New Orleans.

The amount of customs collected at that place from July 1, 1878, to June 21, 1879, is \$1,387,642.56.

Money statement.

| | |
|---|-------------|
| July 1, 1878, amount available | \$25,000 00 |
| Amount appropriated by act approved March 3, 1879 | 22,500 00 |
| | \$47,500 00 |
| July 1, 1879, amount expended during fiscal year | 23,098 99 |
| | 24,401 01 |
| July 1, 1879, amount available | 24,401 01 |
| Amount (estimated) required for completion of existing project | 127,500 00 |
| Amount that can be profitably expended in fiscal year ending June 30, 1881: | |
| For building one light-draught snagboat | 60,000 00 |
| For running expenses, 8 months, at \$300 per month | 24,000 00 |

REPORT OF MR. JUSTIN STRASZER.

UNITED STATES SNAGBOAT O. G. WAGNER,
Memphis, Tenn., February 10, 1879.

MAJOR: I have the honor to submit herewith my report on the operations of the United States snagboat O. G. Wagner in Red River during the period from July 17, 1878, to January 31, 1879.

After having completed some necessary repairs to the snagboat, and fitting her up for service, I started from Memphis on the 17th of July for the mouth of Red River, arriving there on the 21st of July, 1878.

The surveying party on board immediately engaged in commencing the survey of Old River, running the main shore-lines and taking general topography. Owing to the high stage of water which kept up to a great disadvantage, no hydrographical work could be executed at the time, and as there was no prospect of an early and sufficient decline of the stage of water, surveying operations were suspended on the 10th of August, and the assistant engineer making the survey returned to your headquarters.

On the 12th of August, I left Red River Landing with the snagboat for the purpose of removing obstructions to navigation, working upstream in such localities where it could be done with advantage, as the stage of water was still high, being backed up by high water from the Mississippi River.

Proceeding upstream with very fair success, I arrived in Prudhomme Bend, August 18.

During work in this bend on the second day, an essential part of the hoisting machinery was broken, thus disabling the crane to such an extent that no further work could be done until the broken casting was replaced by a duplicate. All communication with the lower river was then interrupted by quarantine regulations of the adjoining parishes, and no boats from New Orleans or any other infected district were permitted

to land anywhere. The only way to obtain a duplicate of the needed casting for the hoisting machinery was by overland route; and, telegraphing to the foundry at Saint Louis from the nearest station, I proceeded without delay upstream towards Shreveport. Not being permitted to land at the city wharf, the snagboat was stopped 6 miles below the city at quarantine station, and permission was given by the health authorities of Shreveport to remain there until the arrival of the casting, which, according to dispatch received, was under way by express, and arrived in proper time.

Replacing the new casting and fitting up the crane machinery were completed on the 28th of August, and work in removing obstructions was resumed on the following day.

The stage of water in the upper river had by this time receded considerably and offered a fair opportunity to execute good work in removing obstructions. Having been ordered by the quarantine officers of the parish of Caddo to return down the river below the line of the parish for 18 days' quarantine, I concluded then to proceed to the mouth of Loggy Bayou and work from there up in the narrow part of the river toward Shreveport, covering a distance of 100 miles.

Viewing the situation and perceiving the immense number of obstructions to both low and high water navigation, consisting of beds of logs, snags, logs projecting from the banks, and leaning trees, it was apparent that only a comparatively small portion of these obstructions could be removed during one working season; the operations were therefore confined to the removal of the most dangerous.

No further interruption occurred, and work progressed satisfactorily, proceeding upstream. The more the stage of water declined the more obstructions showed themselves, and thus it was found necessary to cruise up and down the river to work in certain localities at different times in accordance with the stage of water in the river.

There were no steamers running in the lower part of the river until late in November, when quarantine against New Orleans was raised. In the upper river, between Shreveport and Coushatta, navigation was resumed about the middle of September by low-water boats of the New Orleans and Red River Transportation Company, which were laid up at Shreveport. The river receded then gradually towards low-water mark, and navigation became very troublesome in certain localities. In order to remove such obstructions I had frequently to change the programme laid out for a certain time. No calculation can be made at what time work in a certain bend or locality can be accomplished, as in many instances in raising one log or snag many others lying in connection with the one raised make their appearance, and of course have to be raised also.

I was in constant communication with the officers of the steamers running in the upper river, and by attending to their requests to work in certain localities, and changing the field of working on such occasions, they were enabled to keep up navigation between Shreveport and Grand Ecore, which otherwise would have been entirely suspended if the snagboat Wagner had not been on duty in that portion of the river. I refer especially to the removal of the log bed and snags in Murrell's Reach and the wrecks of Era No. 7 and R. T. Bryarly, besides numerous hidden stumps in certain places, the removal of which has made the running of the channels in those places free of danger.

Thus work was carried on successfully until November 11, on which day the surveying party, which was destined to continue the survey of the mouth of Red River, arrived on board, and in obedience with your instructions I proceeded downstream.

On the way down to the mouth of the river the stage of water was extremely low, which caused delay in many localities, by having to pull over shoals and sand-bars, and also removing snags to clear the way for the snagboat.

Arriving at the mouth of the river, the survey was taken up again and finished by the end of December. At the conclusion of the survey the surveying party returned to Memphis, and the snagboat O. G. Wagner was taken to New Orleans for the purpose of docking her and repairing the damages which she had sustained during the performance of her duties in Red River.

Work throughout the whole distance in the narrow river was very heavy, and great difficulties presented themselves, one of the greatest being to deposit the removal of snags in places where they would not interfere hereafter with navigation. In many instances such obstructions had to be carried off to places within a distance of over $\frac{1}{2}$ a mile to be deposited, after being sawed up, in small bayous and under projecting points. The logs and snags are principally oak, gum, pecan, elm, and cottonwood, and being thoroughly water-logged, will not float but sink in most cases, hence must be carried and deposited in places where they are out of the way.

Very dangerous obstructions are also the logs projecting from the banks square out into the river. These logs are remnants of the former raft formation which extended down to Loggy Bayou, and will be a continuous trouble. As the caving of the banks in the bends advances, it will be necessary to keep on cutting them off. There is also an immense amount of leaning trees and heavy timber on caving banks, which is recommended to be cut down.

The following is the summary of work in removing obstructions performed during the season:

| | |
|---|-------|
| Snags, logs, and stumps removed..... | 689 |
| Logs projecting from the banks cut off..... | 1,056 |
| Leaning trees cut down..... | 1,079 |

The wrecking operations comprise the removal of portions of the wreck of the Falls City and the wrecks of Era No. 7 and R. T. Bryarly.

Among the large number of steamboat wrecks which lie scattered along the river, the following form very serious obstructions to navigation, and need early attention; they are, starting from Shreveport, downstream—

Steamer Richmond, at Devil's Elbow.

Steamer Navigator, at Navigator Landing.

Steamer Express Mail, at R. White's, Bates Place.

Steamers Era No. 13, and Science, at McFarland's Place, considered very bad obstructions.

Steamer Lady Washington, at Christina Place.

Steamer Alabamian, above Cross Keys.

Steamer Hamilton and Byron B., at Byron B. place.

Steamer Falls City, at Panola.

Steamer Exit, at Athlone Landing.

Steamers Gladiola, Clyde, and barge, in Closier Bend.

Very respectfully, your obedient servant,

JUSTIN STRASZER,

Commanding U. S. Snagboat O. G. Wagner.

Maj. W. H. H. BENYAURD,

Captain Corps of Engineers, U. S. A.

L 5.

IMPROVEMENT OF UPPER RED RIVER, ABOVE THE RAFT.

In 1875 I placed a party above the raft for the purpose of cutting down such leaning timber as was liable to slide into the river from caving banks. The funds at my disposal, however, did not admit of extensive operations. The work was continued to a point some 24 miles below Fulton.

With the appropriation made by act approved March 3, 1879, it was proposed to take the plant (or such portions of it as will be of service) belonging to the appropriation for Red River raft, as it is not now in use, and, commencing at Fulton, cut down all the leaning timber and remove the snags and sunken logs.

| | |
|--|----------|
| The estimate cost of this improvement was..... | \$19,560 |
| Of this there was appropriated, by act approved March 3, 1879..... | 10,000 |

| | |
|-----------------------------------|-------|
| Leaving to complete the work..... | 9,560 |
|-----------------------------------|-------|

It is estimated that about 9,000 bales of cotton are shipped annually from the section of river between Fulton and the head of the raft.

Money statement.

| | |
|---|----------|
| Amount appropriated by act approved March 3, 1879..... | \$10,000 |
| July 1, 1879, amount available..... | 10,000 |
| Amount (estimated) required for completion of existing project..... | 9,560 |
| Amount that can be profitably expended in fiscal year ending June 30, 1881..... | 9,560 |

L 6.

IMPROVEMENT OF THE OUACHITA RIVER, ARKANSAS AND LOUISIANA.

The work heretofore carried on upon the Ouachita has been confined to the removal of snags, wrecks, and other obstructions to the safe navigation of the stream, and to the building of brush and stone dams at Buffalo Shoals and at Spoon Camp Shoals, for the purpose of confining the water when at a low stage in a single channel of sufficient width for all navigation purposes.

OPERATIONS FOR THE YEAR ENDING JUNE 30, 1879.

No work was carried on during the low-water season of 1878, owing to the prevalence of the yellow fever and the fact that the snagboat O. G. Wagner had been ordered into Red River for a partial season's work, and I was unable to place her in the Ouachita until too late in the season to accomplish any desirable results.

The Wagner was repaired and put in good condition during the spring, and left New Orleans on June 3, 1879, under command of Capt. Justin Straszer, for the Ouachita River. The stage of water above Monroe, La., being too low, operations were confined to the stretch of river below.

The total amount of work done during the month of June (and accordingly for the fiscal year) is as follows:

| | |
|--|-----|
| Snags and stumps removed from the channel..... | 214 |
| Leaning trees cut down..... | 10 |

Removing of snags will be necessary every year, and more so in the lower part of the river, for which purpose the sum of \$15,000 could be expended during the next season to the great improvement of the channel.

One of the most important improvements in Ouachita River is the removal of an old dam at Catahoula Shoals. This dam was built by the State of Louisiana, but located in a wrong position. A portion of the dam is washed away, thus diverting the water from its accustomed channel. In order to make a good navigable channel at that locality, there will have to be a partial removal of the old dam and the construction of a wing-dam on the opposite shore, in order to deflect the current into its former course.

It would be merely guess-work to estimate the cost of this improvement without a special survey of the locality. The improvement would be, however, of immense benefit, as it would insure navigation to Columbia during the whole year.

An examination and survey will be made of Catahoula Shoals, and plan and estimate presented for the improvement of the locality.

During the coming season it is intended to employ the Wagner in continuing the removal of obstructions in the river, and if the stage of water admits, dams will be built at Hog Eye Shoals, Slim Island, and Smack Over Shoals, Arkansas, similar to those built at Buffalo Shoals, and for the same purpose.

COMMERCIAL STATISTICS.

The following statement will show the different vessels navigating the Ouachita River, and the number of bales of cotton they carried during the fiscal year ending June 24, 1879:

| Name. | Tonnage. | Number of trips. | Number of bales of cotton carried. |
|--------------------|----------|------------------|------------------------------------|
| John H. Hanna..... | 374 | 20 | 35,000 |
| John Howard..... | 330 | 13 | 27,000 |
| John Wilson..... | 298 | 32 | 21,000 |
| Corona..... | 338 | 7 | 10,000 |
| Bastrop..... | 153 | 22 | 11,200 |
| Willie..... | 123 | 1 | 500 |
| Total..... | | | 104,700 |

The amount of cotton from the tributaries of Ouachita River, namely, Saline River, Bayou Bartholomew, D'Arbonne, and Little River, which is reshipped on Ouachita River steamers, is 75,000 bales, making a total of 179,700 bales, representing a value of \$7,188,000
Value of up freight, consisting of provisions, agricultural implements, and general merchandise..... 3,475,000

Miscellaneous down freight:
362,320 sacks cotton-seed, valued at..... 271,740
175,000 white-oak staves, valued at..... 17,500
1,500 head of cattle, valued at..... 22,500
Total value..... 10,974,740

The Ouachita is in the collection-district of Arkansas, there being but one, and in the third collection-district of Louisiana.

The port of entry is New Orleans, La.
The amount of revenue collected at that place from July 1, 1879, to June 21, 1879, is \$1,387,642.56.

The original estimate of operating upon the Ouachita with snagboat is as follows:

Cost of steamer..... \$30,000
Running expenses per month..... 2,200

No detailed estimates will be presented for the improvement of the Ouachita with the snagboat, since the nature of the work must be continuous from year to year, owing to the character of the obstructions which each flood brings down.

The estimates are, therefore, only based upon the amount required to run the snagboat for a season's work.

Amount appropriated March 3, 1871..... \$51,000
Amount appropriated June 10, 1872..... 100,000
Amount appropriated March 3, 1873..... 60,000
Amount appropriated August 14, 1876..... 12,000
Amount appropriated June 18, 1878..... 10,000
Amount appropriated March 3, 1879..... 10,000

The first appropriations were made with a view to the improvement of the river by means of a system of locks and dams, the estimated cost of which was \$1,163,083.75, and by operating with a non-propelling craneboat.

There had been expended under this project, for material, surveys, &c., about \$160,000, when it was abandoned.

The remainder of the appropriations has been expended in the purchase of an iron-hull snagboat and in operating it upon the river.

Money statement.

| | | |
|---|-------------|-------------|
| July 1, 1878, amount available..... | \$10,022 32 | |
| Amount appropriated by act approved March 3, 1879..... | 10,000 00 | \$20,022 32 |
| July 1, 1879, amount expended during fiscal year..... | | 5,874 18 |
| July 1, 1879, amount available..... | | 14,148 14 |
| Amount that can be profitably expended in fiscal year ending June 30, 1881..... | | 15,000 00 |

L 7.

IMPROVEMENT OF THE YAZOO RIVER, MISSISSIPPI.

Eleven wrecks of steamers sunk during the operations of the late war were removed during the season of 1873-74, under contract made with the New Orleans Wrecking and Salvage Company. During the next two succeeding seasons the snagboat O. G. Wagner was employed removing other wrecks, and also snags, logs, and other obstructions to the safe navigation of the river.

OPERATIONS FOR THE FISCAL YEAR ENDING JUNE 30, 1879.

As this stream and its tributaries required a great deal of work in the way of rendering them navigable at the lower stages of water, and having no snagboat especially for operating with, it was determined to combine with the appropriations for several of the other streams and build a light-draught boat, which could, at favorable seasons, operate upon each in turn. This boat will be finished, it is expected, in August, at which time she will be taken to the Yazoo for work.

ESTIMATE.

Eight months' expenses of snag-boat, including incidental repairs, at \$3,000 per month..... \$24,000

The former appropriations are as follows:

| | |
|--|--------|
| By act approved March 3, 1873..... | 40,000 |
| (This amount was applied to the removal of 11 wrecks sunk in the stream during the operations of the war.) | |
| By act approved March 3, 1875..... | 12,000 |
| By act approved August 14, 1876..... | 15,000 |
| By act approved June 18, 1878..... | 25,000 |
| By act approved March 3, 1879..... | 15,000 |

COMMERCIAL STATISTICS.

The Yazoo River is navigated by the steamers belonging to the Mississippi and Yazoo River Packet Company, and the value of cotton and other freight transported annually amounts to about \$7,000,000.

Yazoo River is in the collection-district of Vicksburg, Miss. The port of entry is New Orleans, La.

Money statement.

| | | |
|---|-------------|-------------|
| July 1, 1878, amount available..... | \$25,156 83 | |
| Amount appropriated by act approved March 3, 1879..... | 15,000 00 | \$40,156 83 |
| July 1, 1879, amount expended during fiscal year..... | | 17,797 17 |
| July 1, 1879, amount available..... | | 22,359 66 |
| Amount that can be profitably expended in fiscal year ending June 30, 1881. | | 24,000 00 |

L 8.

IMPROVEMENT OF THE WHITE AND SAINT FRANCIS RIVERS, ARKANSAS.

In August last I assumed charge of the above work, relieving Maj. C. R. Suter.

The project submitted to the department embraced the building and operating of a light-draught snagboat, the plan for which had previously been designed by Major Suter.

The boat is now in course of construction at the yard of the Western Iron Boat Building Company, South Saint Louis, Mo., under the personal supervision of Major Suter and his assistant, Mr. A. H. Blaisdell, to whom I am under obligations for favors conferred. It is expected she will be finished in August, at which time she will be taken south for work upon the streams.

On the Upper Saint Francis, in the region of the sunk lands, I think it would be advisable to cut the heavy timber along the banks. A small working force on a flat, provided with the necessary outfit, would be all that is needed, and three months' work would render that part of the stream navigable for the smaller cotton-boats that ply upon it. The estimated cost of this work would be \$3,000.

ESTIMATES.

| | |
|---|----------|
| Running expenses of snagboat ten months, including incidental repairs, &c., at \$3,000 per month..... | \$30,000 |
| For improvement of Upper Saint Francis..... | 3,000 |

The former appropriations are as follows:

| | |
|--|--------|
| Allotted from appropriation for contingencies of rivers and harbors (act approved July 11, 1870) for the improvement of White River..... | 10,000 |
| By act approved March 3, 1871, for the improvement of Saint Francis River in Arkansas..... | 10,000 |
| By act approved March 3, 1873, for the improvement of White and Saint Francis Rivers..... | 50,000 |
| By act approved June 18, 1878..... | 40,000 |
| By act approved March 3, 1879..... | 12,000 |

COMMERCIAL STATISTICS.

The cotton annually brought to market amounts to about 35,000 bales, besides a corresponding amount of return freight.

Money statement.

| | | |
|---|-------------|-------------|
| July 1, 1878, amount available..... | \$40,000 00 | |
| Amount appropriated by act approved March 3, 1879..... | 12,000 00 | \$52,000 00 |
| July 1, 1879, amount expended during fiscal year..... | | 37,988 88 |
| July 1, 1879, amount available..... | | 14,011 12 |
| Amount that can be profitably expended in fiscal year ending June 30, 1881. | | 33,000 00 |

L 9.

IMPROVEMENT OF WHITE RIVER, ARKANSAS.

This improvement was inaugurated by Maj. C. R. Suter, at Buffalo Shoals. The plan contemplated the construction of 7 spur-dikes of stone, so located as to pond up the water in the places of least depth. Only three of the proposed dikes have been completed, but the results obtained have been very satisfactory.

It is proposed with the appropriation of \$10,000, made March 3 last, to complete the remaining four.

Money statement.

| | |
|--|----------|
| Amount appropriated by act approved March 3, 1879..... | \$10,000 |
| July 1, 1879, amount available..... | 10,000 |

L 10.

IMPROVEMENT OF L'ANGUILLE RIVER, ARKANSAS.

No work has heretofore been done upon this river. The improvement will consist in the removal of the snags, logs, and other obstructions, and for this purpose the snagboat John R. Meigs will be used during the coming season as the opportunity presents itself.

| | |
|---|----------|
| The estimated cost of this improvement was..... | \$10,000 |
| There was appropriated by act approved March 3, 1879..... | 5,000 |

Required to complete the improvement..... 5,000

The appropriations for this river are as follows:

| | |
|---|----------|
| By act approved June 18, 1878, expended in building snagboat..... | \$10,000 |
| By act approved March 3, 1879..... | 5,000 |

COMMERCIAL STATISTICS.

There is brought out of the L'Anguille about 2,500 bales of cotton annually, and when the improvement of the river is completed a large quantity that is now shipped by railroad and also hauled to the Saint Francis will be brought out by steamboats.

Money statement.

| | | |
|---|-------------|-------------|
| July 1, 1878, amount available..... | \$10,000 00 | |
| Amount appropriated by act approved March 3, 1879..... | 5,000 00 | \$15,000 00 |
| July 1, 1879, amount expended during fiscal year..... | | 9,915 83 |
| July 1, 1879, amount available..... | | 5,084 17 |
| Amount (estimated) required for completion of existing project..... | | 5,000 00 |
| Amount that can be profitably expended in fiscal year ending June 30, 1881. | | 5,000 00 |

L 11.

IMPROVEMENT OF BIG SUNFLOWER RIVER, MISSISSIPPI.

No work has heretofore been done upon this river. With the appropriation of March 3, 1879, it is proposed during the coming season to operate with the snag-boat belonging to the Yazoo River in removing the obstructions in the lower part of the river. A force will also be employed in cutting down the leaning timber along the banks.

Examinations will also be made of Oliphant's Bar and Muscle Shoals, near the mouth of the river, with a view to improving the same by means of the ordinary brush-wing dams, and, if the low-water will admit, work will be commenced upon them.

The estimated cost of the improvement of this river was \$66,000
There was appropriated by act approved March 3, 1879..... 20,000

The value of freight for cotton, plantation supplies, &c., transported over this river is upwards of \$2,000,000 annually, and it is estimated that the shipments will be twice the amount of the present movements in up and down freights when the improvement of the navigation is completed.

Money statement.

Amount appropriated by act approved March 3, 1879..... \$20,000
July 1, 1879, amount available..... 20,000
Amount (estimated) required for completion of existing project..... 46,000
Amount that can be profitably expended in fiscal year ending June 30, 1881.... 20,000

L 12.

IMPROVEMENT OF COLDWATER RIVER, MISSISSIPPI.

This stream, which may be considered the true continuation of the Tallahatchie, is obstructed by snags, leaning timbers, &c. With the appropriation of March 3, 1879, of \$7,000, it is proposed during the coming season, in conjunction with the appropriation for Tallahatchie River, to build a flatboat with the necessary machinery thereon, and operate with the same in the removal of the above class of obstructions.

The estimated cost of this improvement was..... \$25,000
Appropriated by act approved March 3, 1879..... 7,000

For the commercial statistics of this stream and its tributaries see Report for Improving Yazoo River, Mississippi.

Money statement.

Amount appropriated by act approved March 3, 1879..... \$7,000
July 1, 1879, amount available..... 7,000
Amount (estimated) required for completion of existing project..... 18,000
Amount that can be profitably expended in fiscal year ending June 30, 1881..... 10,000

L 13.

IMPROVEMENT OF TALLAHATCHIE RIVER, MISSISSIPPI.

During the coming season the improvement of this river will be commenced with the appropriation of \$6,000, made by act approved March 3, 1879.

The wreck of the steamer Star of the West, near the mouth of the river, will be removed by the snag-boat, while for the work of cutting timber and removing other obstructions a flatboat will be built, provided with the necessary machinery for such work. In building this flat it is proposed to unite with the small appropriation of \$7,000 for the Coldwater, and use the same upon both rivers.

The estimated cost of the improvement of this river was..... \$40,000
There was appropriated by act approved March 3, 1879..... 6,000

Money statement.

Amount appropriated by act approved March 3, 1879..... \$6,000
July 1, 1879, amount available..... 6,000
Amount (estimated) required for completion of existing project..... 34,000
Amount that can be profitably expended in fiscal year ending June 30, 1881.. 15,000

L 14.

IMPROVEMENT OF FOURCHE LA FEVE RIVER, ARKANSAS.

No work has heretofore been done upon this stream. During the coming season it is proposed to remove the obstructions and cut the leaning timber upon the bank. For this purpose a flatboat, provided with the necessary machinery, will be employed in the operations.

The previous estimate for the improvement of this stream was \$23,000
Appropriated by act approved March 3, 1879..... 10,000

Amount required to complete the work 13,000

COMMERCIAL STATISTICS.

The valley of the Fourche La Fevé is one of the most extensive in the State. Large quantities of lumber and cotton are brought out annually, besides grain, furs, tallow, and beeswax. There are also mines of lead, iron, and other metals in the valley, which can be profitably worked when the improvement is completed.

Money statement.

Amount appropriated by act approved March 3, 1879..... \$10,000
July 1, 1879, amount available..... 10,000
Amount (estimated) required for completion of existing project..... 13,000
Amount that can be profitably expended in fiscal year ending June 30, 1881.. 13,000

EXAMINATION OF FOURCHE LA FEVE RIVER, ARKANSAS.

UNITED STATES ENGINEER OFFICE,
Memphis, Tenn., January 6, 1879.

GENERAL: I have the honor to forward herewith a report of Mr. Zeph Harrison, assistant engineer, of an examination of the Fourche La Fevé River, Arkansas, made under my direction.