

IN THE SENATE OF THE UNITED STATES.

MARCH 24, 1880.—Ordered to be printed.

Mr. HARRIS, from the Committee on Claims, submitted the following

REPORT:

[To accompany bill S. 814.]

The Committee on Claims, to which was referred the bill (S. 814) for the relief of Henry M. Shreve, having carefully examined the same, submits the following report:

Prior to 1824 Henry M. Shreve was engaged in the steam navigation of the Ohio and Mississippi Rivers, and had given much attention to the matter of removing obstructions to the navigation of rivers.

By act of 24th of May, 1824, \$75,000 was appropriated to improve the navigation of the Ohio and Mississippi Rivers. Under this act the War Department, on the 1st of June, 1824, offered a premium of \$1,000 to any person who should present to the department the machine or instrument best calculated to remove sawyers, planters, and snags, so as to render navigation safe.

In response to this offer there were a number of methods of removal presented, among others that of Capt. Henry M. Shreve, which was to saw off the snags six or eight feet below the surface of the water at its lowest stage; and he stated that "about three years ago I invented a machine for the purpose of sawing off snags, &c., under the water, a model of which I will submit to the inspection of the War Department, if desired."

The plan suggested by John Bruce was adopted, and on the 12th of October, 1824, a contract was entered into with him for the execution of the work proposed. To superintend this work Maj. Samuel C. Babcock was first appointed, who was succeeded by Major Long, of the Engineer Corps; then Col. Samuel McKee; and on the 1st of December, 1826, Capt. H. M. Shreve was appointed superintendent.

In his letter of instructions from the Engineer Department he was informed that the results of Mr. Bruce's operations had not been satisfactory, and Captain Shreve was ordered to report, from time to time, the adequacy of the means of the contractor, Bruce, to execute his contract, &c.

On the 20th of February, 1827, Captain Shreve reported to the Secretary of War that, in his opinion, the means used by Mr. Bruce were insufficient for the work on the Mississippi River, and that Bruce would be unable to perform his contract according to its terms, reporting also, with particularity, the nature of the obstructions in the rivers, and his own opinions as to the best method of removal.

On the 9th of April, 1827, the Engineer Department instructed Captain Shreve to inform Mr. Bruce that his contract was forfeited, stating

that "the Secretary of War approves your plan of removing obstructions in the Mississippi River, and has directed me to say to you that you will take measures to carry into effect, as soon as practicable, the project suggested in your letter.

On the 1st October, 1827, Captain Shreve informed the Engineer Department that the apparatus and means at his command were wholly inadequate to the work to be done, and stated that no boat worked by men would ever be able to remove the obstructions, and recommended that a steamboat be so constructed as to apply the power of the engine to raising and cutting out the obstructions, as well as propelling the boat, proposing to submit a plan for such boat if the government approved the suggestion.

On the 11th December, 1827, the Engineer Department instructed Captain Shreve to submit a plan and estimates of cost of such boat before the government should commit itself to it.

On the 7th January, 1828, Captain Shreve submitted plan and estimates of cost of such boat to the Engineer Department.

On the 24th January, 1828, the Engineer Department wrote Captain Shreve that his plan and estimates for building a steamboat for improving the bed of the Mississippi River had been communicated to Congress, and that no step could be taken by the department until Congress should have acted upon the subject.

On the 27th January, 1828, the Engineer Department wrote Captain Shreve that "the Secretary approves of the use of a steamboat for the purpose," but suggested that one might probably be bought or hired at less expense than to build one that would be of little or no value after the work was done.

On the 13th July, 1828, Captain Shreve, in a letter to the Engineer Department, stated that to hire or purchase a boat suitable for the service contemplated was impossible, and that a boat must be built.

On the 8th August, 1828, the Engineer Department wrote to Captain Shreve that the funds should be deposited in the branch Bank of the United States in Cincinnati and Louisville to enable him to build the snag-boat recommended by him, and the first twin steam snag-boat, the Heliopolis, was commenced in the latter part of 1828, and completed in August, 1829, upon the plans and specifications and under the supervision and direction of Captain Shreve.

On the 25th August, 1829, Captain Shreve reported to the Engineer Department that he had made experiments in removing snags "at Plumb Point (the most dangerous place on the Mississippi River) * * * with the steam snag-boat Heliopolis, and that he had succeeded beyond his most sanguine expectations. In eleven hours that whole forest of formidable snags, so long the terror of the boatmen (many of which were six feet in diameter), were effectually removed, and all of them were broken off below the sand in the bottom of the river."

The full success of Captain Shreve's invention was stated to the War Department in the official report of Captain Delafield, made in 1830, and in 1832 the War Department ordered the construction of another boat, the Archimedes, under the superintendence of Captain Shreve, which was brought into use by him, and the improvement of the navigation of the western rivers was greatly accelerated.

On the 1st May, 1834, Captain Shreve petitioned Congress for compensation for the invention of the snag-boat, in which he said amongst other things:

Your petitioner states that had his invention been of a nature to be applied to private interests, or individual pursuits, he could have made it the means of independence

and wealth. Had it been of that character he could, under the Constitution and laws of the country, have secured to himself the exclusive benefit thereof; but its nature is such as to preclude the employment of it in any other than national improvements. He, therefore, appeals to the justice of Congress for reasonable compensation for his invention, for which he can, under existing circumstances, derive no personal advantage, but which must be beneficial to the country for ages to come.

He asked for a grant of 25,000 acres of land which may be reclaimed by the removal of the Red River raft.

This petition was referred to the House Committee on Public Lands, which committee recommended the passage of an act granting petitioner the right of pre-emption to eighteen sections of the public lands lying upon the line of the Red River raft, upon which report, however, no action was taken in the Twenty-third Congress. In the Twenty-fourth Congress the petition was again referred to the same committee and the former report was adopted, but the bill was not passed.

On the 6th July, 1836, Captain Shreve applied for a patent for his invention, and on the 12th day of September, 1838, letters patent issued to him.

On the 13th January, 1839, Captain Shreve, in furnishing the Engineer Department with estimates for the construction of another snag-boat that the department had decided to build, said:

The accompanying estimate * * * will be very near the cost of the boat and machinery, *exclusive of the patent right* for the boat, which, I hope, will not be charged, as I anticipate selling the right of using the snag-boat to the government.

On the 23d December, 1839, in his official report to the Engineer Department, he said:

I must beg leave to suggest to the department the propriety of calling on Congress for an appropriation to be made at the present session to pay me for the patent right to the snag-boat.

On the 11th September, 1841, Captain Shreve was removed from the office of superintendent of river improvements, but with emphatic expressions of the approval and approbation by the department of the manner he had performed the duties of the position.

In 1841 Captain Shreve again petitioned Congress to compensate him for the use of his invention, asking that the sum of \$100,000 be paid to him for his patent, and there were various reports of committees, all favorable, yet no final action taken upon any of them.

In 1855 Lydia R. Shreve, widow, and Walker R. Carter, executor of H. M. Shreve, deceased, filed their petition in the Court of Claims asking compensation for the invention of the snag-boat.

The court found the facts as above stated, but held that the patent was not valid because of the public use the inventor had made of the invention for seven years before he applied for a patent. Hence the petition of the widow and executor of the patentee was dismissed.

The committee is satisfied from the proof that Capt. Henry M. Shreve was the inventor of the snag-boat; that the invention has been, is, and will hereafter be, of very great, if not incalculable, value to the commerce of the United States in the removal of snags and other obstructions from the channels of our rivers. The removal of obstructions, which was impossible before, was rendered certain and comparatively easy by this invention.

The importance and value of this invention seem to be established conclusively as any fact can be by human testimony. The benefits resulting to the country from its use are manifest.

The great raft in Red River, 160 miles in extent, completely blocking navigation and overflowing an immense area of most valuable lands on

each side of the stream, was cleared by means of the snag-boat, without which no one would have regarded the undertaking as at all probable, if indeed, possible, but with it, at comparatively small expense, the whole raft was removed, the river restored to its original channel, and hundreds of thousands of acres of land reclaimed and made valuable, and about twelve hundred miles of navigation opened.

The Secretary of War, in his report of 1840, estimates the saving to the government in the transportation of supplies to Fort Towson by the removal of the Red River raft at about \$85,000 annually.

By the removal of snags from the great western rivers generally the dangers of navigation to life and property have been incalculably diminished, and the time necessary to the trip of a steamboat reduced about one-half, which have resulted in the reduction of freights in about the same ratio.

Captain Delafield, of the Engineer Department, after carefully inspecting the snag-boat, describes it as "a splendid piece of machinery, with power to raise the largest and most firmly planted snags—an invention that answers the purpose admirably well." He states that one snag raised by the Heliopolis while he was on board contained 1,600 cubic feet of timber, and could not have weighed less than 60 tons.

In 1835 Captain Bowman, of the Engineer Corps, in a report of an inspection of the improvement of the navigation of rivers, made to the War Department, says :

The department is already in possession of the *most unquestionable proofs* of the efficiency of this machine (the snag-boat), drawn from its hitherto successful operation ; but I cannot here omit an opportunity of rendering the merited tribute of praise to its excellence, and to the ingenuity of its inventor. No machine can surpass it in its adaptation to the work in the execution of which it is now engaged. The machine is simple in its construction, and easy in its application ; while in power it has been found adequate to overcome promptly every obstacle it has yet encountered. Through the agency of this machine the largest snags and logs are extracted with ease, many of which without its intervention could never have been removed.

And again, in 1841, he says in his report :

I regard the snag-boat as having contributed immensely to facilitate the navigation of the Mississippi, Arkansas, and Red Rivers. Indeed, I do not think without it that these rivers could have been cleared of snags, rafts, &c., in a century.

In 1834 Mr. Ashley, from the Committee on Public Lands, House of Representatives, reported in favor of granting the petitioner the right of pre-emption to eighteen sections of land on the line of the Red River raft.

On the 3d March, 1836, Mr. Dunlap, from the same committee, House of Representatives, made a similar report to the Twenty-fourth Congress.

On the 12th April, 1842, and again on 28th February, 1843, Mr. Cross, from a select committee of the House of Representatives, reported a bill to the Twenty-seventh Congress to pay Captain Shreve \$40,000 for his patent.

On the 7th June, 1844, Mr. Joseph A. Wright, from a select committee of the House of Representatives, reported a bill to pay to claimant the sum of \$40,000 for his patent.

On the 28th of February, 1846, Mr. Sykes, from the Committee on Patents, reported to the House of Representatives a bill to pay the claimant \$85,000 for his patent.

On the 4th of January, 1848, Mr. Farrelly, from the Committee on Patents, reported to the House of Representatives a bill to pay to Captain Shreve the sum of \$85,000 for his patent.

On the 9th of February, 1855, Mr. Walley, from the Committee on Claims, House of Representatives, reports that the claimant is entitled

to compensation for his invention, and that the smallest amount fixed by the evidence is \$50,000 and the largest \$200,000.

There have been these eight reports from the various committees of the House recommending the passage of bills for the relief of Henry M. Shreve for the invention of the steam snag-boat, and no report against it; and while none of these bills have been rejected, none of them have passed.

The committee is satisfied that Henry M. Shreve was the inventor of the steam snag-boat, and that it is an invention which has saved to the government many millions of dollars, by removing obstructions from our great western rivers which it was impossible to remove without it; by opening to navigation many hundreds of miles of rivers which could not have been navigated without its use; by the increased safety that it has given to life and property in the navigation of our rivers; by the diminution of time necessary for steamers to make their trips, thus lessening freights; and by reclaiming lands which were overflowed, by removing obstructions and returning the water to the channel of the rivers; and so perfect was this invention that no very material improvement has been made upon it, though in constant use by the government up to this time.

The committee is satisfied that neither Henry M. Shreve, the inventor, nor his heirs since his death, have received any compensation for this invention.

Justice demands that a fair and reasonable compensation should be paid to his heirs for an invention which has saved to the government already millions of dollars, and which will be necessary to the government for all future time.

The amount that should be allowed is a question not free from difficulty. The opinions of former committees have varied from eighteen sections of land to \$40,000 and \$85,000. In view of the unquestioned value of the invention and the long delay of compensation, the committee recommends the payment to the legal representatives of the late Henry M. Shreve of the sum of \$50,000, in full satisfaction for his invention of the steam snag-boat and any and all rights that he may have acquired under his patent for the same.

S. Rep. 399—2

