35TH CONGRESS, 1st Session. } SENATE. { REP. COM. No. 108.

IN THE SENATE OF THE UNITED STATES.

MARCH 9, 1858.—Ordered to be printed.

Mr. FESSENDEN made the following

REPORT.

[To accompany Bill S. 188.]

The Committee on Finance, to whom was referred the petition of Edward N. Kent, with the accompanying papers, report:

That the petitioner is the inventor of an "apparatus for separating gold and other precious metals," which has been secured to him by letters patent, dated December 4, 1855, and February 26, 1856, respectively.

Mr. Butterworth, superintendent of the assay office at New York, in a letter to the chairman of your committee, dated January 20, 1857, says:

"In the operations of melting and refining, a considerable portion of the precious metals will be temporarily absorbed by the crucibles and fluxes, and mixed with the ashes of the furnace and the sweepings of the floors. A large amount of material thus accumulates, from which, by some method, the precious metals must be recovered. The amount thus recovered at this office is about $200,000 per year. A portion still remains, however, mixed with the materials which have been subjected to the processes employed. This residuum is technically termed '*sweep*,' and it has been the practice of the government to sell this sweep to the smelters of this country and of Europe."

It has been proved to your committee that the method employed in minting operations, previously to the invention and employment of Mr. Kent's apparatus, for the purpose of recovering the precious metals thus accumulated, was exceedingly imperfect and defective. It was very prejudicial to the health of persons exposed to the operation, by reason of the large quantities of fine dust liberated in sifting—so much so, in one instance, as to cause death. It was expensive, requiring a large amount of labor, crucibles, and fluxes; and it occasioned a very considerable per centage of yearly loss in the "sweep" sold, namely, about ten to twelve cents per pound.

Mr. Kent's apparatus was introduced, at his request, into the assay office at New York, in July, 1855, with a view of testing its merits.

AUTHENTICATED U.S. GOVERNMENT INFORMATION GPO

It was designed by the inventor to lessen, or avoid, all the difficulties above stated, particularly by recovering a much larger portion of the precious metals from their admixture with the substances, so to impoverish the *sweep* as to diminish the per centage of loss on its sale.

The apparatus proved so successful, in all particulars, as to induce the director of the mint at Philadelphia to direct an examination and report upon its merits. The report was of so favorable a character as to lead to its subsequent introduction, with the approval of the Secretary of the Treasury, into the principal minting establishments of the United States, in all of which it has since continued in constant use.

The testimony furnished by Mr. Kent, which accompanies his petition and this report, comes principally from the officers of the mint at Philadelphia and the assay office at New York, and establishes, to the entire satisfaction of your committee, the great importance of the apparatus in minting operations. It accomplishes all the purposes for which it was designed.

Mr. Butterworth, in the communication before cited, says:

"Mr. Kent's invention effects a saving of two-thirds the labor required by the old process; it supersedes almost entirely the expensive operations of fluxing, owing to the thoroughness with which it separates the precious metals from the sweeps; and, by impoverishing the sweeps to one-tenth their former value, it effects a very material diminution of the loss on their sale in the market. I am satisfied that the saving to the government, effected by Mr. Kent's invention, at this office alone, is about $6,000 per year."

The evidence is equally conclusive that, by avoiding the dry sifting, this apparatus relieves the workmen from all the deleterious effects upon health produced by the old process.

By calculations made at the mint and assay office, there can be no reasonable doubt that the saving to the government effected by Mr. Kent's apparatus, at those two establishments, will amount, in the fourteen years of his patent, to a sum exceeding $120,000. Estimating an equal saving at the other establishments, which the witnesses assume to be a fair basis of calculation, the whole benefit derived by the government from this important invention, during the continuance of the patent, will exceed $240,000.

It is quite obvious that the use of Mr. Kent's apparatus is of too much importance and value to be dispensed with in the minting operations of the government. It is equally obvious that it can only be used legally with his consent. Were it otherwise, there is no reason why the United States should not afford him a just and reasonable compensation for great benefits received through his labor and ingenuity. One of the witnesses (Mr. Terry) who has been connected with the assay office from its commencement, says in a letter to Mr. Kent: "Your apparatus is constructed on the soundest principles of mechanical and chemical science, and is, I think, hardly susceptible of much improvement."

All the principal officers connected with both the establishments before named concur in the opinion that Mr. Kent is honestly entitled to remuneration, and that the continued use of his apparatus in

all the minting operations of the United States cannot be dispensed with.

The case is not without precedent. The sum of $2,500 was heretofore appropriated by Congress for the purchase of the perpetual right to use, in the mint and branch mints of the United States, an apparatus invented by Rufus Tyler for counting coins.—(U. S. Statutes, vol. 5, p. 688.)

The petitioner thinks that he is entitled to receive from the government the amount of $20,000 for the perpetual right to use his apparatus in all the minting establishments of the United States. Taking into consideration the great benefits conferred, the fact that this sum is only one-twelfth of the amount which will be actually saved to the government through his instrumentality, and the very limited compensation which he will be likely to receive from other quarters, your committee think his demand not unreasonable, and accordingly report a bill for his relief.