

CATCHING WHALES.

The Boston *Journal* publishes the following interesting information in reference to the whale-fisheries:—

"In 1834 the whole number of vessels engaged in this business was about 700, of which 400, or four-sevenths were American vessels, and 300 or three-sevenths, were foreign; so that 25 years ago, American enterprise was ahead of the rest of the world as four to three. In 1859 the whole number is estimated at 900, of which 661 are American and 239 foreign, showing American enterprise still more in the ascendant: for we have added 261 ships to our fleet, a gain of 65 per cent; while our competitors have fallen off 61 ships, a loss of 60 per cent.

In the value of the catch, the increase is still greater, being about \$12,300,000 in 1859, against \$4,500,000 in 1834—about 175 per cent. This, however, is in a great measure owing to the advanced value of oil and bone, the comparative statement of the quantities being as follows:—

| 1834. | 1859. |
|--------------------------|--------------------------|
| Sperm oil, bls. 95,000. | Sperm oil, bls. 193,300. |
| Whale oil, bls. 146,500. | Whale oil, bls. 153,800. |
| Bone, lbs. 1,175,000. | Bone, lbs. 1,538,000. |

But it is also in part owing to the great relative increase of sperm oil taken—over 100 per cent—while the increase of whales is only 5 per cent.

"Of the ships employed in this business, from this country, nearly, if not quite four-fifths are owned in and fitted from Massachusetts ports, producing to that State an annual income of about \$10,000,000, giving employment to 12,000 seamen, and as many landsmen, besides yielding a large profit on the invested capital.

"The pursuit of whales in all latitudes, including the very extremes of heat and cold on the same cruise, is the most hazardous, and, with occasional exceptions, the most tedious of any occupation men are engaged in. It requires courage, skill, endurance and tenacity of purpose, to insure success, more than are necessary in any other vocation. Scarcely any other voyage requires a year, and every man knows when he ships where he is going, just what he shall have to do, and when he will be back again; but the whaler only knows that he is off to the uttermost parts of the Southern Ocean, probably not for less than two and possibly for four years; it may be to come home with a goodly sum to his credit for his share of the spoils, or with not enough to pay half the common seaman's wages in the mean time; for months at times to roll lazily about on the ocean, with not enough to do to keep the blood in circulation, and then to be roused all at once to stretch every nerve to the highest pitch, and enter with all the soul into the most ardent pursuit of the most dangerous game. But these very uncertainties, hazards, and shifting scenes are suited to our people, and it is therefore easier to fit out and man a whaler from our ports than from any other port in the world. The old Bay State may well be proud of her whaling fleet, of the enterprising merchants who own the ships, of the steady, skillful men who command, and the host of gallant seamen who man them. She may boast of her manufactures, of her commerce, of her schools and her charities, but either or all of these may be matched by others; while no other State, no other nation in the world, can show any thing to compare with her whale-catchers. Success attend them! In this business, which pre-eminently requires all the great qualities requisite to make up a true man, she stands out alone, far above all competition."

In addition to the foregoing statements of our contemporary, we will add a few others regarding the British whale fisheries. In 1820 the number of ships in England and Scotland engaged in the whale fisheries of the Arctic seas was 156, the amount of oil obtained yearly was 18,725 tuns, and whalebone 902, tuns. Owing to the increased difficulty of catching whales, and the rapid extension of lighting streets and factories with gas, the whaling business was afterwards almost extinguished. The old vessels were sold for carrying coal, and an immense amount of property was sacrificed. Within the last few years, however, the business seems to be growing up again, even though vast quantities of coal oil are now made and sold. It is believed that the whale oil, especially sperm, is still superior to all other unguents for the lubrication of machinery; hence, as vast quantities are required for railroads and other purposes, there is much to incite persons to engage in

the whale fishing. Within the past few years the whale fisheries of Hull (the New Bedford of Old England), have put steam into requisition for whaling, and several ocean ships are now engaged in the Greenland and Davis' Strait fisheries. Auxiliary steam engines were first put into some of the old wooden ships, and this was found advantageous; then some iron screw steamers were tried, but they were built so weak that they could not stand the rough encounter with icebergs. The *Chase*, a strong American built ship of 558 tuns, was bought two years ago by a company in Hull, and fitted with steam-engines of 80-horse power, and her first voyage last year, (1858) was very successful to her owners. The use of steam enables British whalers to make one voyage to Greenland and another to Davis' Strait in one season, and it thus has advantages, but we do not think it would be very economical for the long voyages of our whalers to the Pacific. The town of Hull which sent out 60 ships to the whale-fishing in 1818, with crews of 40 men each, does not send more than 20 ships to-day; hence, we may well say, Americans are the whale-fishers of the world.

FILE-CUTTING MACHINE.

Messrs. Editors:—I read with some interest, on page 291 of the present volume of the *SCIENTIFIC AMERICAN*, your notice of the file-cutting machine of M. Bernot, of Paris, having been successfully used in England and on the Continent of Europe; it being essentially the same machine that I patented in England in 1854, and in the United States in 1855. I also read on page 333 of the above volume, some statements made by your correspondent, D. H. C., who is, I suppose, my friend, D. H. Chamberlain, the fruits of whose fertile inventive genius are often recorded in the United States Patent Office, and well known in scientific circles. As there are some errors in the statements of the above correspondent, I beg leave to correct them, as it may be inferred that my patent was *his* invention; and at the same time I will show, by my experience, the caution which is requisite to avoid losing the benefit of valuable inventions in Europe.

Mr. Chamberlain says, truly, that the machine which I patented possesses the same elements as the one exhibited by M. Bernot, and he adds that all that is essentially distinctive, new and useful in it was originated by himself and sold to me in 1853, and that it performed admirably. I vainly endeavored to cut a perfect file with the machine above alluded to; I also called to my aid skillful mechanics and other workmen, without producing a single merchantable file; therefore, it was abandoned. My own machine was the result of like repeated efforts and failures before I succeeded. As I still have the Chamberlain machine lying in a pile of old iron, the dissimilarity of the two machines will be apparent on comparing his with the illustrations of mine in the Patent Office Report for 1855. It is due, however, to Mr. Chamberlain to say that his machine contained some features from which I derived some aid in the construction of mine; but they were imperfectly developed and were by no means what I regarded as my most important points.

As Mr. Chamberlain says, I executed an order for several of my machines for a firm in England, and took them there with me. With the assistance of J. C. Cooke, a very ingenious mechanic whom I took with me, I also made further improvements on machines subsequently built in England. Mr. Cooke is now in this country making further valuable improvements on them. That my machine (which is essentially the Bernot machine) cut perfect files, I have the highest testimonials from distinguished manufacturers and consumers of files, both masters and operatives; but those machines could not be operated by the owners in Sheffield, where they resided, on account of the violent opposition of the File-cutters' Trade's Union there; hence they were compelled secretly to operate them in Manchester, to avoid a "strike" of all their numerous workmen, attended, perhaps, by personal violence.

A word further in regard to M. Bernot's French machine which is now attracting so much attention, and about the way the French patent was obtained. While I was in London, in the winter of 1843, preparing my patent papers through a solicitor, access was had to the papers without my knowledge; the description and drawings were copied *verbatim*; and to my surprise, a patent

was issued in Paris before the English patent. M. Bernot's machine, with some modifications, is essentially mine, and in addition to valuable considerations received in France and Belgium, it has been sold by him to an English company in Bristol for \$75,000; while, by reason of the loose forms of foreign patents, requiring no oaths, and the technicalities of English laws in enforcing contracts, I was deprived of important benefits.

H. HOTCHKISS.

Plainfield, Mass., Nov. 29, 1859.

P. S.—As a caution to other inventors in like circumstances, I would add that if my English patent been procured through the Scientific American Patent Agency, I should have avoided the loss of the French patent, which now I shall have to recover by foreign litigation.

H. H.

INDIAN CURIOSITIES.

A course of deeply instructive and interesting lectures on India was concluded at the Cooper Institute, this city, last week, by the Rev. Dr. Scudder, who was for many years a missionary in the East Indies, and intends to return again to that wonderful country. He stated that many of the rivers in southern India run under the surface. A subterranean stream flowed under the apparently dry sandy bed of the Milk river, near which he had lived, and which was so fierce in its torrent as to engulf the unsuspecting animals who chanced to venture on its seemingly safe surface. He took a long stride to the subject of jugglers to settle an important question: "Can snakes be charmed?" He answered in the affirmative, and proceeded to describe the musical operations of the snake-charmers, their transparent pretences to power over the venomous reptiles, his own experience in testing their capabilities, and the wonderful little animal (a species of weasel) which does not hesitate to grapple with the most voracious snake. The Hindoo holy books ho dated as far back as 1,400 years before Christ. The immensity of their vernacular and Sanscrit compilations on almost every imaginable subject he considered marvellous. As an illustration of the extraordinary rapidity with which they wrote—even with their rude materials, he mentioned that he had known school-boys to report a sermon as fast as the missionary could deliver it. As an evidence of the highly elevating tendency of a portion of their literature, he recited a number of maxims, among which were the following:—

"Sweet is the pipe; sweet is the lute, say they who have never listened to the prattle of their own children."

"The fruit, when green, rears its head like a base man; but when it is ripe in the harvest, it is inclined like the head of the wise."

"Love your enemies—those of kind disposition return love for hatred, as the more you squeeze sugar-cane the more juice it gives."

Says one Hindoo: "Wash charcoal as much as you like, it will always remain black; so a bad man cannot become good." "But," replies another, "let fire enter in the charcoal, and it becomes luminous; and so truth, entering into a bad man, will make him luminously good."

"Do good to others—it will come back to you. The water which you pour on the roots of the cocoa-nut tree comes back to you sweetened from the top."

Yet Hindoo literature abounds in folly and filth, and much of it is unfit for perusal. It is, however, springing up afresh, with the beautiful truths of the Bible infused into it. Their language is very melodious; some of the poetry rhymes at both ends of the lines.

MACHINE DEPARTMENT AT THE AMERICAN INSTITUTE.—During the fair of the American Institute we made arrangements for illustrating the Machine Department of the exhibition, with the intention of publishing it before the fair closed. The engraving was accordingly prepared; but when submitted by the artist who had charge of getting it up, it was rejected on account of the inartistic manner in which it was executed; and we have been obliged to have the machines all re-drawn and re-engraved. The work is progressing, and when done will be a creditable production, as one of the best artists in the city is engaged upon it, and we have the promise of it in season for our next number; but should it not then be ready, we trust to be able to publish it without fail in the following one