its bulk while alive. This shrinkage is due to abstraction of the water with which the loose, spongy tissue of the exhausted animal is distended. A so-called "fat" oyster, on the other hand, will suffer no such excessive diminution in bulk when placed in alcohol or other hardening fluid. In consequence of this variable development of the reproductive organs as well as that of the connective tissue of the body-mass, the amount of solid protoplasmic material contained in the same animal at different times under different conditions must vary between wide limits. And, inasmuch as the nutritive and reproductive functions of animals are notoriously interdependent, it follows in consequence of the enormous fertility of the oyster that a vast amount of stored material in the shape of connective tissue must be annually converted into germs and annually replaced by nutritive processes. Plentitude or dearth of food are also to be considered; but it now becomes a little easier to understand the physiological interdependence of the reproductive function and the so-called fattening process.

To a great extent what has been remarked in the preceding paragraphs of the wasting away of the reproductive organs in *Ostrea virginica*, seems to apply also to *O. edulis* and *O. angulata*. The last species has an extraordinarily thick body-mass with the stratum of reproductive follicles of remarkable thickness, averaging a much greater development than I have ever seen in any other form. When the contents of this great mass of tubules has been discharged a diminution in the bulk of the body-mass must naturally ensue, probably accompanied by a wasting away of the connective tissue and tubules such as apparently occurs in the American species. From what I have seen of the generative tubules of *O. edulis* in sections, they are evidently regenerated much as in *O. virginica*. In a few specimens I find them almost entirely gone, or present only in an extremely rudimentary state.

BRINGING WHALE OIL FROM THE PACIFIC TO NEW YORK.

By FREDERICK HABERSHAW.

[From letter to Prof. S. F. Baird.]

I am bringing the Northwest Pacific whale oil, which is now delivered by whalers at San Francisco, to the Atlantic by bulk cars instead of by Cape Horn route, as formerly. The total amount coming thus by rail is 21 cars this year, averaging 3,300 gallons each, or 69,300 gallons.

San Francisco has become the whaling depot of the Pacific, for the fitting up and discharging of whalers; it is only a question of time when all this product will be brought to the Atlantic by rail. Probably in a few years all the manufacturing will be done there instead of at New Bedford.

113 MAIDEN LANE, NEW YORK, *January* 30, 1883.