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| 1. Cost of electricity for cooking as above, -   | 7.3 cents |
| 2. Cost of heating water, for purposes as given above, and the same amount, in boiler of fifty per cent efficiency, with coal at same price as mentioned above, allowing for loss through radiation for day of twelve hours, - - - | 1.2 cents |

Total cost, - - - -	8.5 cents
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It will thus be seen that there is practically no difference between electricity and the ordinary cooking stove, so far as cost is concerned, and it is almost needless to point out the advantages of the electric oven over the cooking stove.

In the first place, we have absolutely no dirt, the electrical oven being lined with porcelain enamel, which can be cleaned with the greatest ease. In the second, we have practically no heat outside the oven to heat the room in summer. Then we have absolute regulation of the temperature. If the oven is cold, and we require a temperature of, say, 100 degrees C. to cook something, the automatic regulator is set to 100, and in less than a minute the temperature has risen, and remains exactly at that temperature. Again, if it is desired to only cook for a certain time, say two hours, the cut-out is set for two hours, and at the end of that time the current is either stopped entirely, or is lowered so as to give any reduced temperature that may be desired.

In conclusion, we may say that the electric oven is bound to come, if only on the score of convenience and accuracy. If cheapness were the only consideration, we should still be burning tallow candles or gas, but people, and especially the American people, will always decide in favor of what is most convenient, so long as the difference in expense is not so great as to form a serious burden, and the above data will, it is thought, show that, used in a proper manner, the expense of electrical cooking need not be seriously taken into account.

It will be seen that of every 100 tons of coal used in a cooking stove, ninety-six tons are wasted. It is difficult of course, to get exact figures, but it is probable that the waste in the city of New York alone is not far from 1,000,000 tons per annum.

With the electric stove, though the cost does not greatly differ, yet by far the larger proportion of the expense is due to the labor, interest on plant, and canalization, so that (taking the efficiency of the boiler, engine and dynamo as ten per cent) the electrical oven, for the same amount of useful calories, uses only one-fourth as much coal as the cooking stove, and from a social-economical point of view, is much to be preferred, for the more we can live on the world's interest, which is labor, and the less we draw from the world's capital of fuel, the better.

R. A. F.

#### MOUSE TRAPPING.

BY FRANK BOLLES, CHOCORUA, N. H.

LATE in August the mice of our White Mountain woods, fields, and meadows, begin to show an increasing interest in corn, sweet apples, and other kinds of bait usually used in effecting their capture. In the early summer trapping them is slow work, but the chill of autumn seems to stir them to fresh activity in the gathering of food, and then pursuit of them becomes really interesting. This year I am taking them alive in order to learn more about their habits during the winter. Where, in previous years, I have set the deadly little "cyclone" traps, I am now setting the common woven-wire trap with a revolving wheel attached. For the ordinary white-footed, or deer mouse (*Sitomys americanus*), I have only to bait the trap with

kernels of corn or a bit of sweet apple, and place it at sunset near my wood pile or under the lumber heap back of my barn, and the sound of the whirling wheel is soon heard. For the long-tailed, gray, white-footed mouse (*Sitomys americanus canadensis*), I go to pine stumps in the woods, or to the old logs on the shore of a pond far from houses, and feel confident of taking him wherever I have previously found traces of his presence.

It is also easy to capture the short-tailed, brown meadow mouse (*Arvicola pennsylvanicus*), who always seems to me as much like a diminutive bear as the white-footed mouse is like a tiny deer. His place of abode is readily detected, for he makes long runways in the grass leading to the holes in the ground through which he reaches his burrow. Sometimes I find him under a plank bridge which crosses a moist spot on the edge of the mowing land, but oftener I trap him in the long matted meadow grass where his paths lead here and there in search of food or water. As a rule I catch him in broad daylight when he is most active. *Evotmys rutilus* has a keen eye for protective colors. I find him most frequently in dark, damp woods, remote from houses, domiciled in hemlock stumps. His chestnut fur matches the color of a decaying stump so closely that he seems like an animated portion of the red wood. He does not, however, confine himself to the forest, for I have caught at least one of his family, close to my barn. Neither does he limit his range to low land, for I have secured specimens a thousand feet above his favorite swamps.

By far the most beautiful of the New England wild mice is the jumping mouse of the woods (*Zapus insignis*). For him I walk back a mile from my house through lonely pastures and birch woods to a mountain stream which comes splashing over a rocky bed in a dark ravine. It is not on the first, or even the second day, that he condescends, or dares, to enter the trap, although that dangerous engine is carefully covered and disguised with leaves, ferns and bits of growing moss, until it looks like a piece of the wild wood itself. At first he eats the kernels of corn or the pieces of apple which are placed farthest from the trap. Then, night by night, he comes nearer, until at last, having eaten all the corn and apple outside of danger limits, he ventures too far and is caught. Probably *Zapus hudsonius*, the common jumping mouse, is to be found in this vicinity, but thus far I have not secured him, although his cousin with the white-tipped tail might almost be called abundant. A seventh species, too well known in his customary resorts, is *Mus musculus*, the old world pest of the pantry.

Trapping mice in "cyclones" often results in supplying moles and shrews with food which they seem greatly to enjoy. In fact, *Sitomys* himself is only too willing to devour the tender portions of his own kindred. By using the wheel trap and taking my mice alive, I am not annoyed by the flesh-eaters.

#### SUBMARINE PHOTOGRAPHY.

BY JOHN HUMPHREY, LONDON, ENGLAND.

SEVERAL of the difficulties experienced in endeavors to ascertain the natural relations of objects existing at considerable depths under water have been overcome by M. Louis Boutan, in a remarkably ingenious manner, and the contrivances he adopted are described in a recent communication to the Paris Academy of Sciences.

He prefers to use a small camera in which several plates can be exposed consecutively, and encloses this in a rectangular, water-tight metal box, into the sides of which plates of glass are inserted to serve as windows. The camera can be so disposed that the lens may face all the windows in turn, if desired, and exposures are regu-