

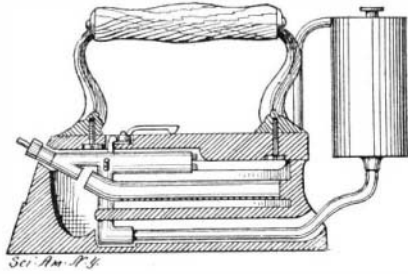
A NOVEL SELF-HEATING SAD-IRON.

One of the drawbacks to the more general introduction of the self-heating sad-iron is the necessity of using as fuel a high-grade gasoline, which, in country villages, cannot always be readily obtained. The drawback has been simply enough avoided in a new sad-iron invented by Mr. Iver Wickland, of West Superior, Wis. Besides overcoming the difficulty mentioned, the inventor has also devised a burner which completely consumes the vapor formed, and has provided a generator which maintains a constant pressure.

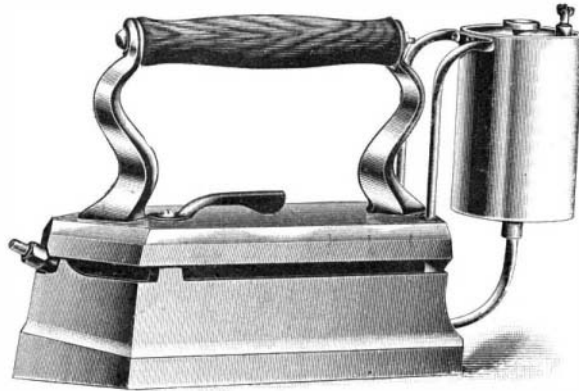
The illustrations presented herewith are perspective and partial sectional views of a tailor's goose made according to the principles of Mr. Wickland's invention.

The oil-reservoir is supported at one end of the iron. From the lower end of the reservoir a tube extends through the lower portion of the iron beneath a metal shield. The tube is connected with a retort in which the oil is received for the generation of gas. The retort communicates with a valve-casing provided with a needle-valve and arranged to discharge the vapor in a burner-tube located directly above the shield. Openings in the lower portion of the burner-tube discharge the gas downward on each side of the shield. The forward portion of the iron constitutes a cup for oil. When ignited this oil will heat the retort and adjacent parts sufficiently to generate vapor. By opening the needle-valve the vapor is mixed with air, forced into the burner-tube and ignited.

The iron can be kept hot for more than sixty hours at a cost of twenty cents. The heat can be regulated as desired. Only one iron is required for the house laundry. No stove is needed to heat several irons. The combustion of the gas is so complete that no odor is perceptible.



PARTIAL SECTION OF A SELF-HEATING TAILOR'S GOOSE.



PERSPECTIVE VIEW OF SELF-HEATING TAILOR'S GOOSE.

A SINGULAR INDUSTRY IN THE POISONOUS INSECTS OF CALIFORNIA.

BY CHARLES F. HOLDER.

Southern California has a number of so-called poisonous insects—scorpions, centipedes, tarantulas and others; yet it is rarely that they are seen outside the curiosity shop. In a residence of fifteen years in this section the writer has never seen any of these insects where they should not be, namely, in the house, and has only found them after a diligent search—a strange

Southern California being the great American tourist center, they naturally find a sale. The average tourist thinks it necessary to carry home something as a souvenir; in nine cases out of ten the same thing can be bought in the East; but they wish something that came from the locality in which they are visiting. I sometimes think that tourists wish to convey the idea to their less fortunate friends that they have been traveling in a dangerous country, and so send or take back home the poisonous insects as evidence of it. In any event, there is an ever-increasing demand for them."

There are in Southern California several wholesale houses who employ men to mount these horrors, and the method of work is not uninteresting. While one rarely sees a scorpion or tarantula in this section, a careful search for them is generally repaid, but it is not near houses. In Florida the scorpions are surface lovers, and houses, and especially old board piles, offer the greatest inducements to them; but in California this insect is a burrower and found underground, as are the tarantula and trapdoor spider. The tarantula trade is, perhaps, the most important; the huge hairy creatures being more repulsive than others are consequently more in demand. The low hills to the south of Pasadena were once famous collecting grounds, being partly adobe, the soil especially suited to the building operations of the insect burrowers. At this place I once found the collectors of one of these firms. They were boys, and each was supplied with a large bottle of water, a tin can and a forked twig or stick. The ground was rough, dotted over with gopher and squirrel holes, and every few yards a hole about an inch and a quarter across could be seen. Sometimes this was covered with a gossamer shutter of web, but generally it was wide open. Placing his can on the ground, one of the boys uncorked the bottle he carried and poured a little of the contents into the hole. The water was probably tinctured with alcohol, as I doubt if pure water would have sent the occupant up so quickly; a fierce spider with a span of legs nearly four inches in extent, a huge hairy creature with a body seemingly as large as that of a mouse. Out it darted, then seeing danger ahead, drew back; but the forked twig was deftly inserted beneath its body, and the spider was tossed several inches away where it settled back in the manner popularly described as "on its haunches," showing the death-dealing fangs ready for action.

It was a tarantula, the *Mygale hentzii* of science, a near ally of the bird-eating spider of South America, and a creature to admire from a distance. But the young collector treated the insect with scant courtesy, placing the mouth of the can before it and hustling the giant into it with a businesslike air; then with bottle in hand he moved on. The next find was a trap-door spider (Fig. 2), very common in Southern California. This is the *Cteniza Californica* of science, a most remarkable and ingenious nest builder. The spider sinks a tube from six inches to a foot in length, lines it with silk so that it presents a perfect satin finish; then a door of silk and clay is made, which

fits so perfectly that it is water and air tight, this works on a hinge, also made of silk. Just on the inner rim are several small holes, which look as though they might have been made with a pin; these are where the spider grips the lid with its mandibles to hold it down. This the boy illustrated for my benefit. The nest could only have been seen by an expert, as the outer part of the lid was exactly like its immediate surroundings in color and tint; but the collector's eye was keen, and he seemed to find the nests with perfect ease. As one was discovered he dropped to the ground and deftly inserted the point of his knife beneath the lid, lifting it up and exposing the silvery interior; a most marvelous structure, as the work of a spider. Dropping the lid the boy asked me to lift it, saying that the spider was upon the other side holding it down. As I inserted the knife and lifted I could feel the little owner tugging at the lid, and as I raised it, caught a glimpse of the hairy legs. She had the lid firmly in her mandibles and was holding it with a force which would be effective against what might be termed her normal enemy. The spider was ousted by pouring water into the tube, and quickly landed in the tin cup. The boy now cut out the door of the tube and about four inches of the latter which was later mounted in a square box and the spider placed within to tell the complete story. In the course of the forenoon a number of tarantulas were caught in this way, also as many trap-door spiders. Scorpions were found in small burrows near the surface, or often in the holes of lizards.

The tarantula merely digs a burrow from six to twelve inches in depth, and makes no pretense of covering it, though sometimes there is a mass of web at the bottom, and at times a web placed over the entrance. The insect is a night-feeder, roaming about, preying upon crickets, beetles and other insects so unwise as to venture forth at the same time. The spiders brought in by the boy collectors, who search the country for them in all directions, are killed by immersion in alcohol, and handed over to the taxidermist who prepares them as quickly and cheaply as possible; the abdomen is filled with cotton and the insect then dried in a position to show its greatest spread. The room of the taxidermist is a chamber of horrors; the walls covered with tarantulas; scores of them drying,

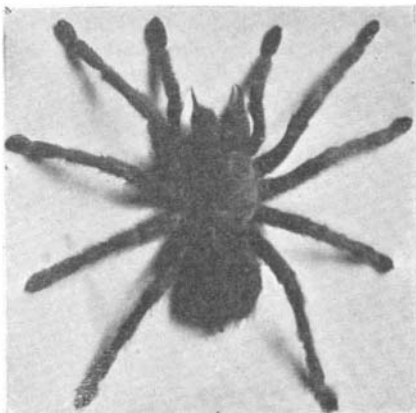


Fig. 1.—TARANTULA.

contrast to life on the Florida reef, where at night a crunching sound underfoot, or beneath the rocker, would tell the story of a wandering scorpion, the sting of which is extremely painful.

In Southern California there is, singularly, a great demand for all the insects mentioned, which constitutes a business of some magnitude, involving the



Fig. 3.—SCORPION.

more or less skilled labor of a number of persons. In China such a demand might be understood, as objects of this kind are of use in the medicinal dietary of the Celestial Kingdom; but what Americans not naturalists should want with hideous tarantulas, unspeakable centipedes and others would seem a mystery,

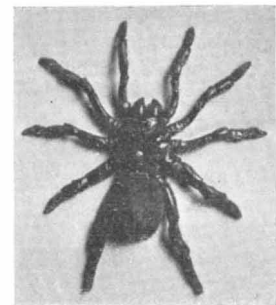


Fig. 2.—TRAPDOOR SPIDER.

while hundreds more await preparation. Exactly how many of these insects are sold in this way to the tourist trade is not known, but the firm referred to—Messrs. Wakely & Company—mount thousands every year, not to speak of centipedes, trap-door spiders and horned toads.

Among these insects is a giant wasp, common here and generally sold under the title of tarantula hawk, the wasp being an inveterate enemy of the spider. I have often followed the wasp in its search, and no hound ever tracked a fox with more eagerness. It would walk rapidly over the ground, examine every hole and crevice, vibrating with emotion; and when a hole was discovered, darted down into it eagerly; a few moments later perhaps out would come spider

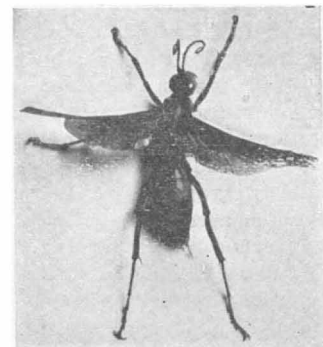


Fig. 4.—TARANTULA HAWK.

and wasp engaged in a terrific battle. The wasp was overmatched, as regarded size, its burly antagonist rolling it over and over; but the wasp evaded the strong mandibles and finally managed to drive its rapierlike sting into the tarantula, which paralyzed it; indeed, the effect was at once apparent, the spider