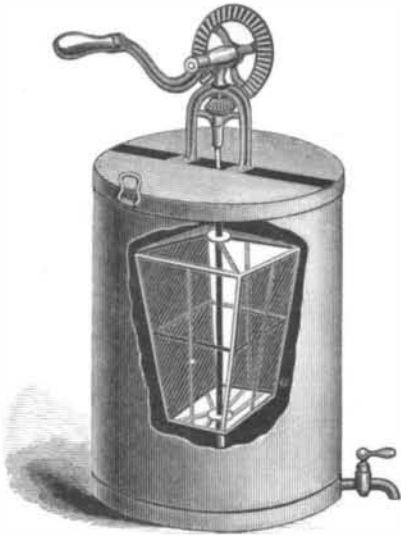


BEE FARMING IN NEW SOUTH WALES.

The operations in bee culture going on in Parramatta, says the *Town and Country Journal*, are well deserving of being ranked as bee farming; and as will be seen, the operations are carried on after the most approved system of the German apiarians, which differs only in the form of hive used and a few minor details from the approved system followed in Britain and America. The advantages of following any system in which the bar-frame hive is used intelligently are so manifest, in comparison with the keeping of bees in ordinary boxes, that, as the former become



CENTRIFUGAL MACHINE, SHOWING INSIDE.

more common in the colonies, we can see a great future for the honey industry in this country, and an early approach of the time when, instead of importing, we shall be heavy exporters of honey of quality unsurpassed by any in the world. But to get at the history of the company whose operations are illustrated in this issue: It appears that in December, 1881, a skilled bee master, Wilhelm Abram, arrived in Sydney from Germany, where bee culture is a recognized industry. There are institutions which are subsidized by the State, and are under the care of scientific entomologists, for the purpose of teaching the art of bee culture to those desirous of making it their study, and at such an institution Mr. Abram was trained. He brought with him certificates of qualifications from no less authority than that of the celebrated Dathé. On his arrival in Sydney Mr. Abram placed himself in communication with Mr. S. MacDonnell, of this city, an enthusiastic amateur bee keeper. Mr. MacDonnell saw the opportunity which the advent of Mr. Abram gave to establish a bee farm on a commercial scale and conducted by a skilled apiarian, and conceived the novel idea of working it as a joint stock venture. Four well known gentlemen in Sydney joined him and Mr. Abram in the venture. As it was intended that the operations of the company should eventually be with Italian bees, a race superior in many important respects to the ordinary black bee, the concern was named the Italian Bee Company. Mr. Abram was appointed salaried manager and Mr. MacDonnell honorary secretary.

Mr. Abram, before leaving Germany, had purchased some of the prize swarms at an exhibition of Italian bees in Germany, and the Italian Bee Company commenced operations with these on a rented piece of ground at Parramatta, in January, 1882. An importation of prize queens from America was made, and the operation of queen rearing was entered on. In the mean time a number of colonies of the common black or English bee afterward had been secured and transferred to frame hives, and as Italian queens were reared, the black queens were removed and replaced by Italians, the progeny of which replaced the black bees, as the latter died out. Much attention was not paid to producing honey until the race of Italian bees should have been firmly established, and the result was that in the spring of last year there were about 80 colonies of gold-banded Italians actively at work. The company before this secured the fee simple of a piece of ground in Kissing Point Street, Parramatta, where operations are now conducted. There, a few weeks since, on visiting the establishment, we saw the hives opened, the frames containing beautiful sheets of comb removed (the gentle Italian bees showing no signs of anger during the operation); the comb was then placed in a centrifugal machine, which threw the honey out by centrifugal force, leaving the comb undamaged and ready to be returned to the hives for the bees to fill over and over again with nectar.

The bee master is an adept at his profession. Pipe in mouth, he opens hive after hive, blowing a whiff of smoke upon them, to give the bees something else to think about when they seem any way refractory, a projection from the stem of the pipe allowing this to be done conveniently. The hives used are of the German bar-

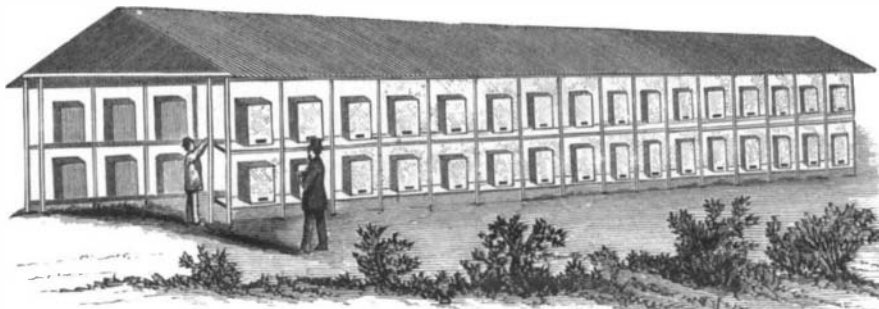
frame kind. They open from the back, and each hive is two stories high, so that ample space can be given to the bees when they are storing honey rapidly. The main house is about 150 feet in length, 10 feet high, 10 feet wide, and



THE BEE MASTER, WITH FRAME OF HONEY.

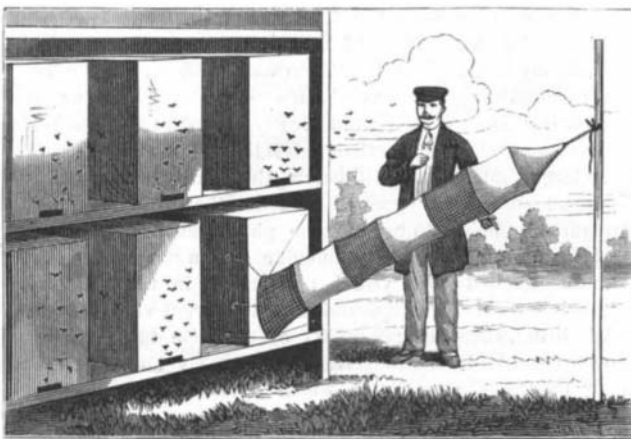
two tiers of hives are arranged on each side, as shown in the sketch.

The swarming bag is one of the best things we have seen in bee culture. It is about 6 feet in length and 1 foot in



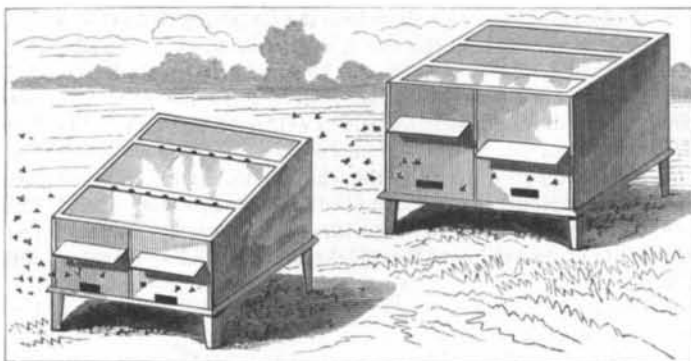
OUTSIDE OF THE BEE HOUSE.

diameter, and formed of alternate lengths of calico and mosquito netting, each length having a ring of cane inside, to hold out the bag as shown in the sketch. When the bees are about to swarm, the bag is fastened on to the front of



SWARMING BAG, A GREAT IMPROVEMENT.

the hive and the other end fastened to a stake. When the queen emerges she bounds up into the upper end of the bag, and is quickly surrounded by her followers. Thus the swarm is captured with ease, the alternate breadths of



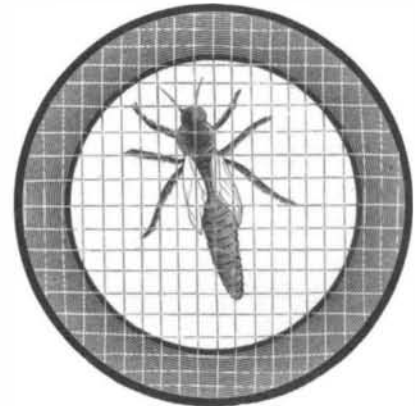
QUEEN BREEDING HIVES.

mosquito netting and calico making the interior light and enticing for the bees to enter and cluster. They are then shaken into a bar-frame hive.

The queen breeding hives are much smaller than the

others, and are arranged at distances of about 20 feet apart alongside the fences. Two or three frames of brood comb are put into each hive, with a queen cell coming to maturity. When the queen bee hatches out of the cell, she makes a flight (the only flight of her life) in order to meet a drone or male bee. She is then fertilized, and becomes the mother and queen of a family, laying eggs at the rate of 2,000 daily when the season is good and stores abundant.

The centrifugal machine is used for extracting honey without destroying the comb. The caps with which the bees seal up each cell of honey are sliced off with a very thin bladed knife of simple form, and the frames are set in the metal basket of the inside of the machine. Then, by turning the handle, the honey is thrown out and runs down the sides of the machine, from which it is drawn by a



THE QUEEN CAGE.

tap. In this way absolutely pure honey is got without any other substance whatever, and without injuring the bees or annoying them. The queen cage is drawn to scale, as is the queen or mother bee seen inside. In America, and in other places, these queen cages and mother bees are sent by post, and thus hives are strengthened and the breed of bees improved. One of the objects of the befarm at Parramatta is to send out queens and improve the race of bees, as well as the hives and the quality of the honey. There is abundant room for improvements of the kind. From this country the very finest honey ought to be exported in quantity, although at present very poor stuff is sent us from places where glucose mixtures are worked up for honey. The bees at Parramatta are doing excellently well this season, as are also the Italians recently received by us from Queensland.

Aquatic Spiders.

Waiting beside a mill pond on a mild, balmy day last March, a slight wind prevailing, but not enough to ruffle the surface of the water, I noticed a spider let himself down into the water from one of the trees bordering upon the pond, and as soon as it reached the water the web or strand was severed with such a length attached to his person as to act as a sail and serve to assist his propulsion, with the favoring breeze, to the other side. Numerous spiders followed the same procedure with webs of varying lengths from three to eight feet. I supposed this was their method of crossing from side to side in search of more abundant food.

I may, perhaps, be only repeating what was before well known, but as it was new to me I give it for what it is worth.—George C. Henning, *Amer. Naturalist*.

Psychical Research.

A body calling itself "The Society for Psychical Research" is addressing a series of what must surely be serio-comic interrogatories to the public in relation to "hallucinations" and "dreams." An invitation is thrown out to all the weak-minded people who think they have seen "ghosts" or "specters," or been "touched" by mysterious shades, and to all the dreamers who dream dreams of the nature of "coincidences," to state their experiences.

Here is a grand opportunity for the mad folk outside Bedlam. If it were not for the trouble involved, we should like to peruse the mass of "communications" these invitations will be certain to call forth.

There are, however, some preliminary questions which ought to be asked: Indeed, has any "society" of presumably sane men a moral right to instigate the crazy public to formulate its "mysterious" experiences? We know that the most disastrous consequences sometimes ensue to weak brains from dwelling too intently on subjects of the nature of "fixed ideas." It is, therefore, doubtful whether this sort of thing ought to be allowed. No sober minded person can doubt that all impressions of seeing, or hearing, or feeling spiritual manifestations must be morbid. Such things exist only in the imaginations of the persons who are subject to them.—*Lancet*.

Two New Processes for Making Artificial Ivory.

We translate from the *Chronique Industrielle* the following description of a new process for making artificial ivory from the bones of sheep and goats and the waste of white skins, such as kid, deer, etc.:

The bones are macerated for ten or fifteen hours in a solution of chloride of lime, and afterward washed in clean water and allowed to dry. Then they are put with all the scraps of hide, etc., into a specially constructed boiler and dissolved by steam so as to form a fluid mass, to which is added $2\frac{1}{2}$ per cent of alum. The foam is skimmed off as it rises until the mass is clear and transparent. Any convenient coloring material is then added, and while the mass is still warm it is strained through cloth of appropriate coarseness and received in a cooler, and allowed to cool until it has acquired a certain consistence so that it can be spread out on the canvas without passing through it. It is dried on frames in the air, and forms sheets of convenient thickness. It is then necessary to harden it, which is accomplished by keeping it for eight or ten hours in an alum bath that has not been used before. The quantity of alum necessary for this operation amounts to 50 per cent by weight of the gelatine sheets. When they have acquired sufficient hardness, they are washed in cold water and let dry on frames as at first. This material works more easily and takes as fine a polish as real ivory.

Another method of making a durable artificial ivory is described in the *Zeitschrift des Apotheker-vereines*. A solution of caseine is made first with 200 parts of casein in 50 parts of ammonia and 400 parts of water, or of 450 parts of albumen in 400 parts of water. To either of these solutions are added 420 parts of quicklime, 150 parts of acetate of alumina, 50 parts of alum, 1200 parts of gypsum, and 100 parts of oil. The oil must be added last of all. If dark colored articles are to be made of it, 75 to 100 parts of tannin may be substituted for the acetate of alumina.

After the ingredients are thoroughly kneaded together to form a homogeneous paste, it is passed through rollers to form tablets of any desired size. These are dried and then pressed into moulds that have been heated, or they may be finely pulverized and then put in hot moulds and exposed to powerful pressure.

When the articles are finished they are put in a bath made by dissolving 1 part of white glue and 10 parts of phosphoric acid in 100 parts of water. The object is then dried, polished, and varnished with shellac.

How to Treat Sudden Wounds.

The subject of one of the lectures by the Society for Instruction in First Aid to the Injured, delivered by Dr. D. L. Woodbridge, of this city, was "What to do in case of a sudden wound when a surgeon is not at hand." He said in part:

An inexperienced person would naturally close the lips of the wound as quickly as possible, and apply a bandage. If the wound is bleeding freely, but no artery is spouting blood, the first thing to be done is to wash it with water at an ordinary temperature. To every pint of water add either five grains of corrosive sublimate or two and a half teaspoonfuls of carbolic acid. If the acid is used, add two tablespoonfuls of glycerine, to prevent its irritating the wound. If there is neither of these articles in the house, add four tablespoonfuls of borax to the water. Wash the wound, close it, and apply a compress of a folded square of cotton or linen. Wet it in the solution used for washing the wound, and bandaged down quickly and firmly. If the bleeding is profuse, a sponge dipped in very hot water and wrung out in cloth should be applied as quickly as possible. If this is not available, use ice, or cloths wrung out in ice water. If a large vein or artery is spouting, it must be stopped at once by compression. This may be done by a rubber tube wound around the arm tightly above the elbow or above the knee, where the pulse is felt to beat; or an improvised tourniquet may be used. A hard apple or a stone is placed in a folded handkerchief, and rolled firmly in place.

This bandage is then placed so that the hard object rests on the point where the artery beats, and is tied loosely around the arm. A stick is then thrust through the loose bandage and turned till the flow of blood ceases.

The Duties of Car Tracers.

All the railroad companies whose lines are fed by many branches, find it necessary to employ what are known as car tracers, or lost car agents. His work is often more difficult than those not familiar with railroad affairs may perhaps imagine. Empty cars are quite often switched on to side tracks and run into the yards of other companies 1,000 miles from the point from which they started. There they get mixed up with the cars of other companies, and are

Then, again, he may ascertain that a missing cattle car has been run off to the western terminus of some road that has been consolidated with one or two other lines. At all events, his task is a difficult one, and one that requires him to be traveling almost constantly in various directions.

Said a car tracer to a *Missouri Republican* reporter: "Some people think I have a soft job, but they are not familiar with my duties. I have been car tracing a long time, and am compelled to say that some of the cars I was sent out to find nearly a year ago are still missing. The other day I struck a junction on one of the railroads running through Illinois, when I happened to see a strange looking object near the track that looked like a sort of canal boat with windows in it. Smoke curling from a stovepipe that protruded through the roof of the concern convinced me it was occupied. Out of curiosity I walked up to the concern in order to get a better view of it. On close examination I found it contained letters and a number on its side. Referring to my book, I discovered it was the identical car I had been trying to find for six months. The railroad company had established a station there, it appears, without building a station house for the accommodation of the public. Determined to supply the deficiency, the residents of the neighborhood had confiscated the car, placed it in a conspicuous place near the track, cut holes in it for windows, and converted it into a depot. I reported my discovery, and shortly afterward the company hauled the car away, disregarding the protests of the residents against the proceeding. Sometimes we find the remains of demolished cars at the foot of some high embankment, sometimes cars with their roofs sticking above the surface of some pond, and sometimes we never find them at all."—*The Railway Review*.

**TROUVE'S ELECTRIC JEWELS.****ELECTRIC JEWELRY.**

We take pleasure in presenting to our readers a series of electric ornaments for ladies' wear, that has recently been devised by Mr. Gustav Trouve, of Paris. We reproduce herewith, from the *Chronique Industrielle*, cuts representing some of these objects and showing how they are constructed and illuminated.

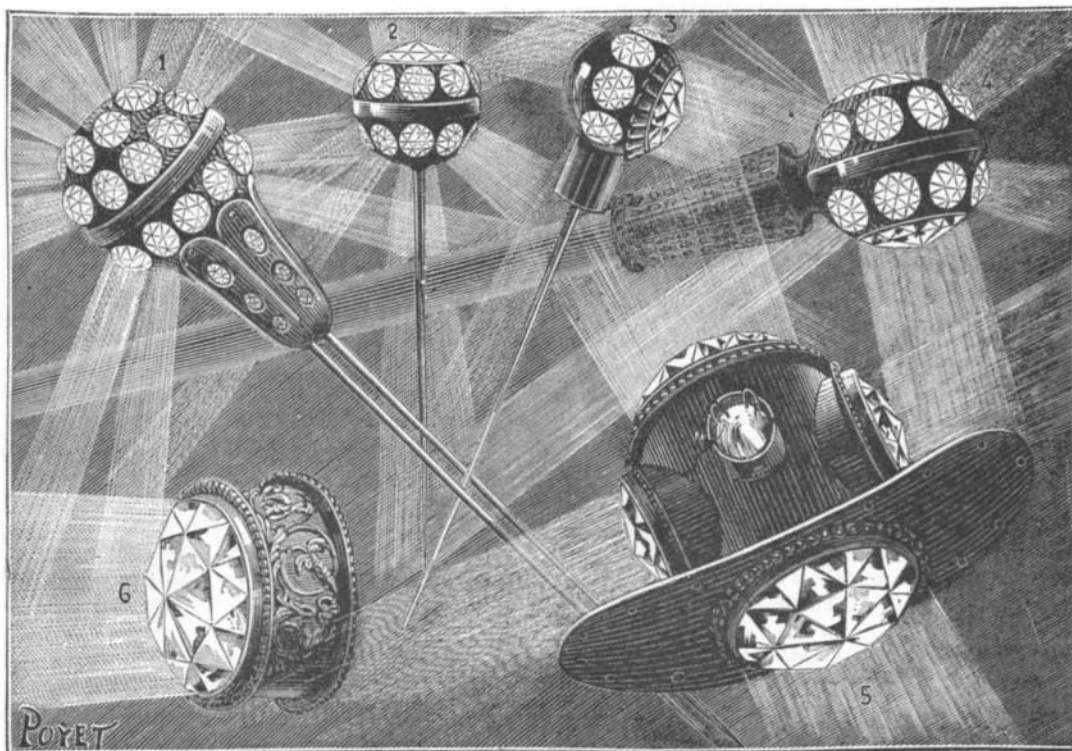
In Fig. 1, No. 1 represents a pin for a lady's head dress decorated with diamonds and rubies in equal numbers and alternating with one another. The rubies and diamonds have not the usual cut of these gems, but consist of small lenses whose foci have been accurately determined. The luminous source itself always occupies an invariable position, that is to say, the center of the sphere; notwithstanding the variable dimensions of the glass vessel and the inequality of the centering of the carbon filament that it contains.

This result has been obtained very simply by Mr. Trouve, by means of a small metallic socket into which the neck of the lamp is cemented in the desired position. This socket, which in all cases is the same, occupies an invariable position in all the jewels shown in the cut, so that if an accident happens to the lamp the owner of the jewel can himself at once remedy it by opening it and replacing the injured lamp

by another one provided with its conductors and its metallic socket, which latter will have in the jewel exactly the same position that the other did, that is to say, the position most favorable for producing the sparkling effects. Fig. 2 shows a section of one of these lamps, which is of 4 volts. Nothing has been neglected in order to obtain a maximum of luminous power and a simplicity in working. The lamp is connected with the little pile through the intermedium of a flexible two wire conducting cord which is concealed under the garments. The pile is put into the pocket, or attached to some part of the dress.

What we have said in regard to the hair pin applies to all the other jewels, so that it will only be necessary to enumerate them. Nos. 2 and 3 are scarf pins—rubies and diamonds. No. 3, in addition to the rubies and diamonds that are arranged around its periphery, is provided with a large side diamond, which projects its rays to a distance and "permits one to read his newspaper in darkness." No. 4 is the head of a cane having two rows

of alternating diamonds and rubies around the circumference, and two large diamonds which cast their rays in opposite directions. By substituting a ruby for one of the diamonds, one can at will project white and red rays, which may serve for corresponding with some one at a distance. No. 5 is a sort of diadem designed to be used in ballets. The broad

**Fig. 1.—TROUVE'S ELECTRIC JEWELS.**

side tracks for miles, examining the cars that come within the pale of his observation. He may find car 5,870, which belongs in New York, badly battered up on the side track of some obscure road in Texas: or perhaps he will discover a freight car that has not been heard of for several months up-end in a pool with its number under water.