

THE ODD FELLOWS' TEMPLE, CHICAGO.

The new temple soon to be built in Chicago by the Odd Fellows of the State of Illinois is to be one of the most imposing structures of its kind in the United States, and the tallest building in the world. Rising to a height of 556 feet, the tower will be visible at a distance of sixty miles, and every available foot of space will be utilized. Upon the ground floor the area covered will be 43,000 square feet, and the total area inclosed by the various floors, exclusive of walls, partitions, corridors, etc., will be something over 350,000 square feet.

Twenty stories of the building will be included in the main structure, while the tower is to be fourteen

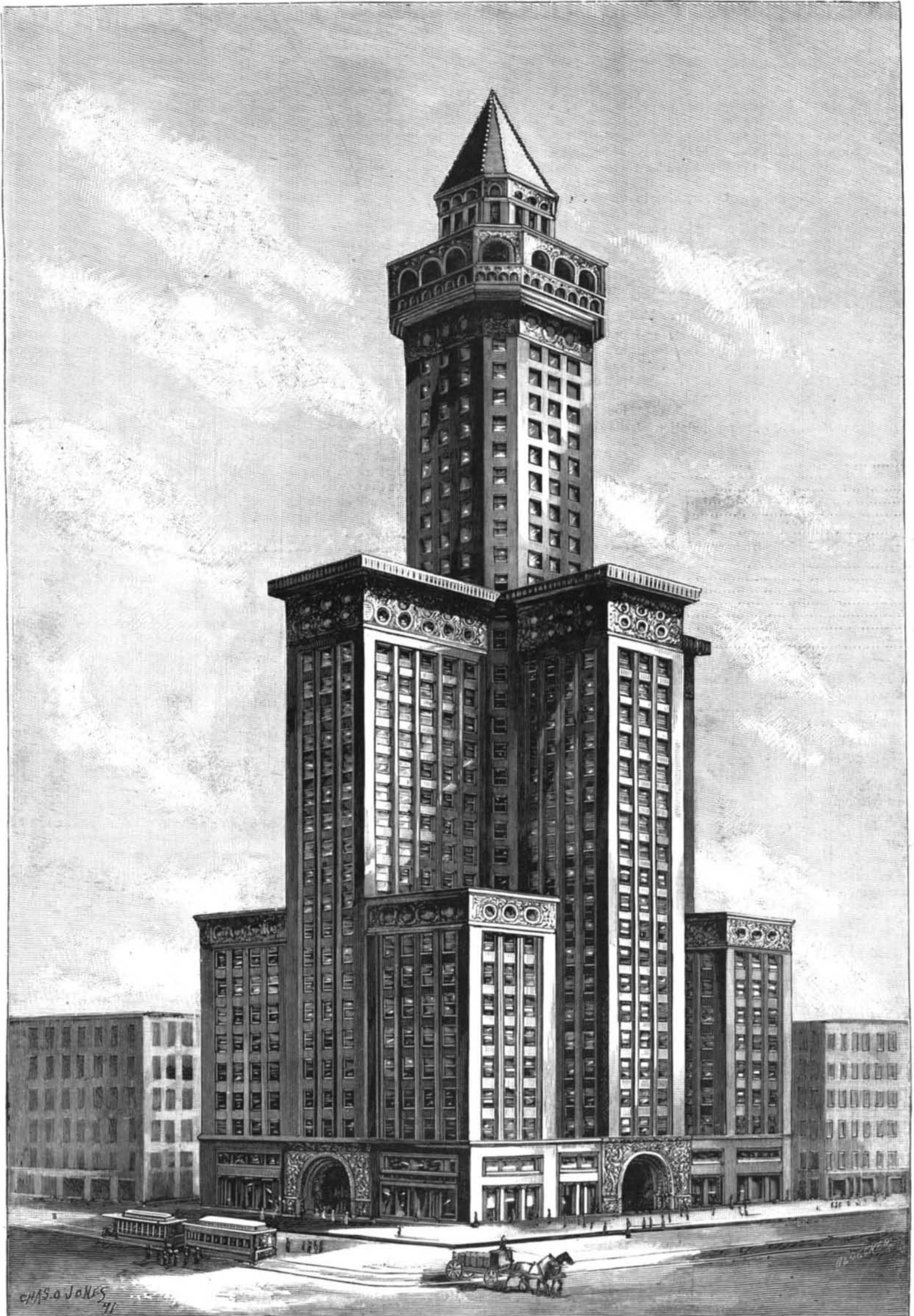
stories high, and, like most of the rest of the building, will be devoted to offices, eighteen elevators and four stairways giving access to the topmost floor. Five floors of the building are to be devoted to lodge rooms and public halls, among the latter being a drill hall, with an area of 8,000 square feet.—*The Graphic.*

A Suggestion for Inventors.

A correspondent, who lives in the distant colony of Tasmania, Australia, indicates his troubles in land clearing, and calls for inventions as follows:

Could you publish in your SCIENTIFIC AMERICAN the best devices for felling trees and cutting them up when down, say from two to four feet in diameter?

We have an immense lot of timber on the land in Tasmania. When a selector takes up a block of land, the device we have is to fell the trees with an ax, and, when down, two men cut them up into say 15 ft. lengths with a cross-cut saw, roll them together in heaps and burn them. The timber is of no value, there is so much of it. There are as many as 400 and 500 trees per acre, averaging about 3 ft. in diameter and about 200 ft. in height. They cost the selector about five dollars per tree to get rid of them; so you will see that it is not all sunshine with the selector in Tasmania. What we want is something to reduce the cost per tree; or, in other words, some device other than felling them with the ax, as it is so laborious.



THE PROPOSED ODD FELLOWS' TEMPLE AT CHICAGO.

Some Results of New Inventions.

T. F. O'Rourke, President of the Hat Finishers' Association, asserts in a late address that "some districts have suffered from the introduction of improved machinery." He adds that "it is not desirable to oppose machinery, . . . yet many shops are putting in machines which, with the assistance of the boy system prevailing in Philadelphia, will work great injury to us."

The readjustment of laborers consequent on the perpetual invention of improved machines is a source of perpetual disturbance everywhere, and always has been in civilized societies. So are changes of fashion—as when shoe buckles went out, a large body of buckle makers were brought to destitution. Both, however, are only a part of the general social movement, which is incessant and endless. No fixed status is possible in a universe of evolution. The only way the individual can keep his place is by evolving also and enlarging his range of industry. The workman must be flexible and quick to learn new things. He must cease to think of stopping the flood of novelties and learn to swim in it. Business men of all kinds are troubled by the same instability of affairs. He who will not change is submerged, he who changes with the times gains by the time's changes. It is hard and requires activity, but there is no other way.

New machines cannot be prevented; nor should they be, since they enrich the world and have made the workingman's progress to be what it is already. He never had a fraction of his present comfort till steam machinery began to do his work for him. House, clothing, good food, education, clubs, newspapers, all his advances are the result of modern machinery. It is the Atlas which carries the world's welfare on its shoulders; every bit of work it does is so much lifted from the strain and drudgery of the laborer as well as of the rest of us. By cheapening production it increases consumption, which calls for more labor, which new labor is easier than before the machine went to work. Think of the toil of the old-fashioned farmer in harvest, compared with that of him who now sits on his reaper and binder in comparative ease all day! The workman who learns to understand new machinery rapidly and helps to work it is the man of his time, and this should be the model and ambition of all. The times reward the nimble and quick-witted—which all should make haste to become. And the duty to do so is laid upon them by nature, not by society. Society cannot prevent men from thinking out improvements which nature puts into their heads. And therefore the workman must keep himself right with nature, as indeed he is learning to do.—*The Social Economist.*

A Versatile Gunboat.

A new gunboat, the Svensksund, has been added to the Swedish navy. It has been built by the Kockum Engineering Works, of Malmo. Her dimensions are: Length, 120 feet; breadth, 21 feet; draught, 9 feet. The armament consists of four Nordenfolt guns and torpedoes. The vessel will, however, be more useful in time of peace than in war, as, first, she is a powerful ice breaker, fitted with water tanks for sinking to the desired depth; secondly, she is furnished with heavy gear for towing or hauling off stranded vessels; thirdly, she is equipped as a fire steamer, having ten large suction hoses and a centrifugal pump capable of delivering 22,000 cubic feet of water per hour; fourthly, she is fitted with condensers furnishing 800 gallons of water per hour; and fifthly, she is equipped as a torpedo repairing vessel. The engines with which this combined ice breaker, tugboat, fire engine, water supplier, torpedo repairing shop, and man-of-war is equipped are of 150 indicated horse power, giving the vessel a speed of 12½ knots.

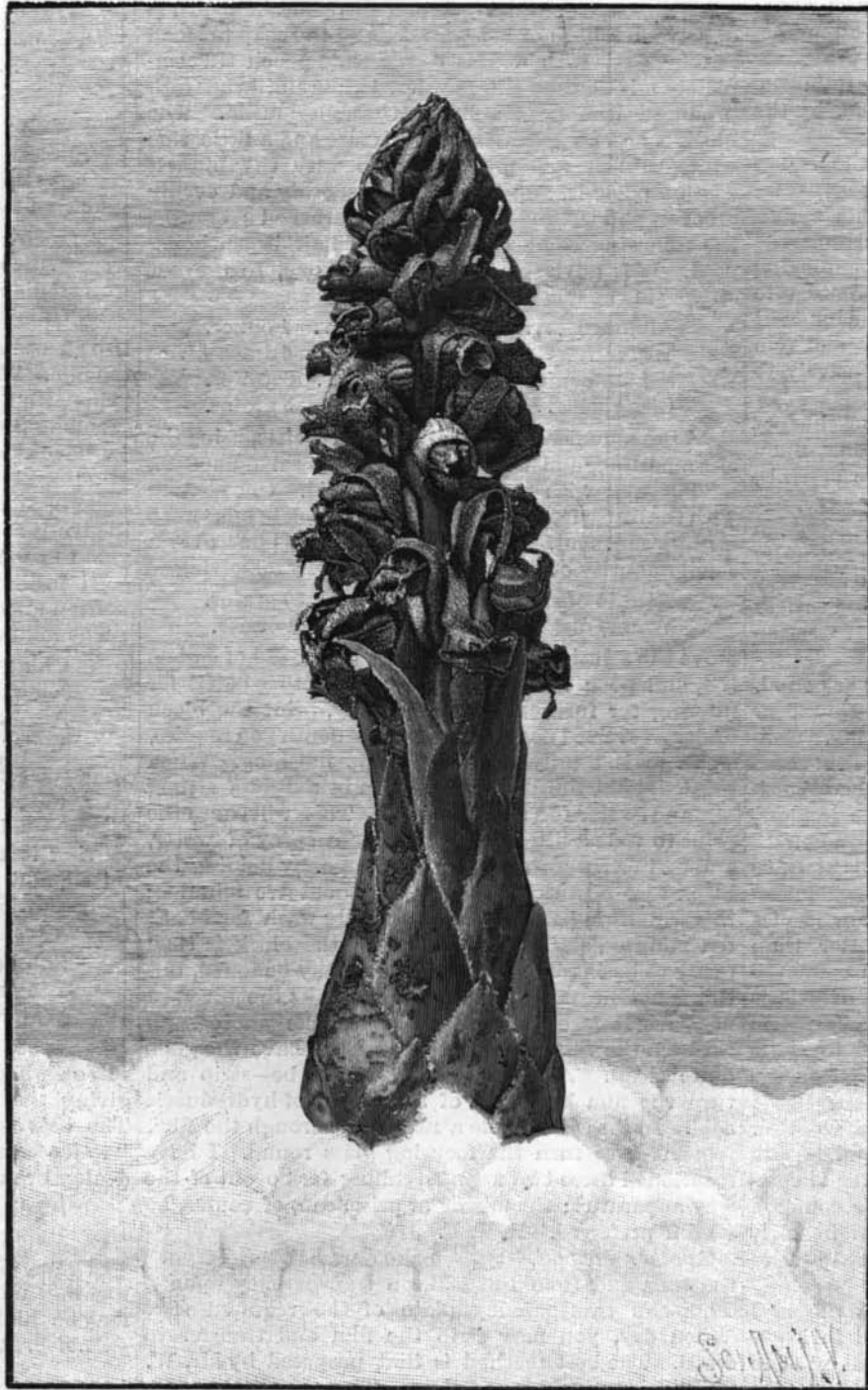
The Highest Electric Central Station.

Pontresina, a locality of the Grisons Canton, Rhetia, situated at an altitude of 6,000 feet above the level of the sea, in a vale running parallel with the Inn Valley, on the road leading to the celebrated Bernina Mountain and Pass, is understood to claim the possession of the highest electric central station. The motive power for generating the current is furnished by a torrential stream of the same name, the cascade of which is of immense advantage to the district. The inhabitants of

this sequestered nook, who exhibit greater evidence of business aptitude than one might expect from simple mountaineers, have formed themselves into a—not exactly a limited company, but into a kind of Lancashire co-operative society, to the end that each lowly shepherd's hut is supplied with electric light and power almost for the mere asking. The water falls from a height of 430 feet, producing a cascade, the utilization of which to the extent of 300 liters only yields a source of energy giving theoretically, without loss, 520 horse power.

THE SNOW PLANT OF THE SIERRAS.

We present herewith, from a photograph taken by Mr. Taber, of San Francisco, a figure of the California snow plant (*Sarcodes sanguinea*, Torr.), so called because it thrusts its stem up through the snow to a height of nine or ten inches, and flowers when no other vegetation is to be seen. This curious plant, which belongs to the order Ericaceæ, is allied to the *pine drops*



THE SNOW PLANT OF THE SIERRAS. (SARCODES SANGUINEA, TORR.)

(*Pterospora*), but has much larger flowers, an elongated style and wingless seeds. There is but one species (the one here figured), which is an erect herbaceous parasite, with succulent, scale-like leaves, and a long raceme of pendulous flowers. The whole plant is of a blood-red color.

A Simple Process for Coloring Photos.

The following is a process by which colored photographs can be made without any knowledge of drawing or painting.

Take any unmounted photographic print which it is desired to color, and place it on a pane of glass, the face toward the glass. In this way the image will be seen through the back of the paper.

With an ordinary pencil mark on the back of the print a rough tracing of the outlines of the photograph, marking the places where the colors must afterward be applied. When this tracing has been made, remove the photograph, lay it on blotting paper, and apply the colors to the back of the print. The colors should be spread on in flat tints, it not being necessary to use demi-tints. For example, a flesh tint is put on the face, and black or brown on the hair; if the picture is a landscape, the trees are colored dark green, the sky part blue. It is important to use strong col-

ors, which will show through the paper better. After this operation is finished, and when the colors are dry, the photograph is rendered transparent, as follows:

First prepare the following solution:

- Essence of petroleum or benzine..... 10 parts.
- White vaseline..... 1 "

The vaseline is dissolved in the liquid, and then the mixture is ready for use. Then the photograph, which has been colored previously, is placed on some sheets of white paper, and the back of the picture is saturated first, pouring the solution on it, and rubbing with the finger to cause the mixture to penetrate, first the color and then the paper. The print is then turned face upward, and this side is saturated in the same way.

After this operation the paper becomes oily and transparent, and the color begins to show through.

It is left to soak thus for an hour or two, then both faces are rubbed with linen until no oily spots can be seen, when the proof is placed on white paper.

The operation is then completed, and the proof has only to be pasted on cardboard, the same as other photographs. But, as the paper is still saturated with vaseline, water paste will not answer, and some kind of varnish will have to be used.

This process of painting, which can be used by any one, gives very beautiful effects.

Colors which are thus applied to the back of a photograph give it a tone of admirable freshness, and the vaseline mixture brings the image out. Besides, as the colors have the thickness of the paper to pass through, they are greatly softened, and thus approach nature. The variations of the tints will be seen, by transparency, when looking at the picture.

As to the colors, any that are at hand can be used, whether water colors or oil colors. The essential point is to choose the most strong colors, rose, green, etc., and to put on only a very thin layer, as otherwise the vaseline cannot pass through it. If oil colors are at hand they will be better, and the result obtained will be much prettier, for they are more striking, and the vaseline passes through them better. Pastels or colored crayons can be used, but oil colors are greatly to be preferred to any others.

If it is desired to save, and not to color, the photograph, its outline can be traced off on ordinary white paper, and the colors applied to the white paper as before described. Then it is only necessary to paste it on the mount behind the photograph, care being taken to render the latter transparent, and the two must be so placed that their outlines will agree. The effect obtained is the same, and gives very pretty results, not showing in the least how they are done.

Fractional Currency Scrip.

A movement in favor of the issue of fractional currency is in progress. Business men who conduct a large business by mail are much annoyed by the want of some mailable form of currency. Silver coins are too heavy and bulky for transmission by mail, and are far from safe, as any one who handles the letter can ascertain

their presence. Postage stamps have come into extensive use for the transmission of small amounts, and this has become, in many cases, a positive annoyance, owing to their accumulation on the hands of merchants. They are also bought at post offices which, under the law, obtain no credit for selling them. We believe that, from these points of view alone, the reintroduction of "fractional currency" would be an excellent enactment on the part of the government.

A Large Glove Industry.

At Grenoble, France, it is said that 1,200,000 dozen pairs of gloves are manufactured annually. This represents a value of \$7,000,000 to \$7,200,000, and gives employment to 25,000 workpeople of both sexes. There are 4,000 men and 21,000 women residing in a rayon of 38 miles around Grenoble who live by this work. Glove making, then, is interesting from a social point of view, as it is one of the few callings open to female labor in which they can earn respectable wages without abandoning husbands, homes, and little ones. The writer adds that out of the \$7,200,000 worth of gloves made in that region at least \$3,000,000 are distributed in wages among an almost infinite number of families. *New York Recorder.*