

ANTS AND THE LARVÆ OF LYCÆNA PSEUDARGIOLUS.

The behavior of ants toward aphides, from which they obtain supplies of a secretion which is quite to their taste, has long been a matter of observation. It is now announced that ants have a way of cherishing the larvæ of the butterfly (*Lycæna Pseudargiolus*) for the tasteful matters which it exudes. In the last issue of the *Canadian Entomologist* there is a description of observations of this kind by W. H. Edwards, of Virginia, from which we quote as follows: "The ants, when discovered on a stem, will invariably be on or near the larvæ. They run over the body, caressing with antennæ, plainly with the object of persuading the larvæ to emit a drop of the fluid on the eleventh segment. Most of this caressing is done about the anterior segments, and while the ants are so employed, or rather while they are absent from the last segments, the tubes of the twelfth segment are almost certainly expanded to full extent, and so remain, with no retracting or throbbing, until the ants come tumbling along in great excitement, and put either foot or antennæ directly on or close by the tubes, when these are instantly withdrawn. The ants pay no heed to the tubes, do not put their mouths to them or to the openings from which they spring, nor do they manipulate that segment. They seek for nothing and expect nothing from it. But they do at once turn to the eleventh, caress the back of the segment, put their mouths to the opening and exhibit an eager desire and expectancy. By holding the glass steady on the eleventh, a movement of the back of this segment will soon be apparent, and suddenly there protrudes a dull green, fleshy, mamilloid organ, from the top of which comes a tiny drop of clear green fluid. This the ants drink greedily, two or three of them perhaps standing about it, and they lick off the last trace of it, stroking the segment meantime. As the drop disappears this organ sinks in at the apex and is so withdrawn. The ants then run about, some seeking other larvæ on the same stem, some with no definite object, but presently all return and the caressings go on as before. The intervals between the appearance of the globule varied with the condition of the larvæ. If exhausted by the long continued solicitings, some minutes would elapse, and the tubes meanwhile remained concealed; but a fresh larvæ required little or no urging and one globule followed another rapidly, sometimes even without a retracting of the organ. I have counted six emissions in 75 seconds. The larvæ did not always await the approach to the eleventh segment, but gave out the drop unsought and as soon as it was aware of the presence of the ant. Now and then the drop was preceded by a bubble several times larger than itself."

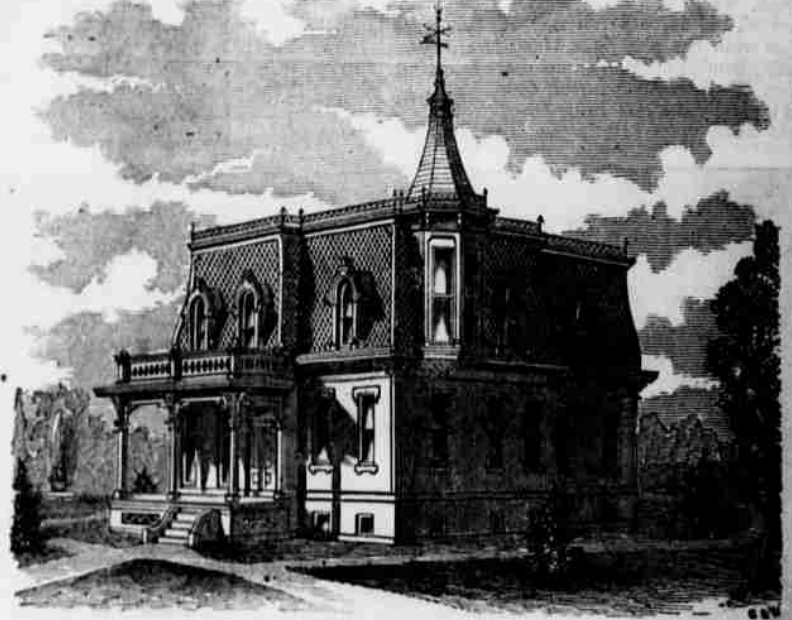
PLANTS AS AIR PURIFIERS.—Mr. Girdlestone says, in a little pamphlet lately published: "If a number of flies be placed in a glass case (such as an aquarium), with plenty of sugar to feed on, and the case be then made air tight, they will in a few days have so poisoned the air with their breath that they will die. But if some living plants, as well as sugar, are shut in with them, they will continue to live for months, with active appetites and in perfect health; the plants removing the carbonic acid and ammonia (both of them poisons to animals), and returning to them pure oxygen and nitrogen instead."

A PIGEON LIVING WITHOUT A BRAIN.—Dr. McQuillen recently described before the American Philosophical Society a case of the extirpation of nearly the whole of the cerebrum of a pigeon, operated upon by himself. He desired to place on record the fact that the animal not only survived the operation 24 days, but that it gradually regained its usual powers and habits of flight, and its ability to feed itself and drink. Only one other such case is on record.

THE POINT OF GREATEST STRENGTH IN METAL.—Numerous experiments have been conducted by several eminent engineers to prove the tensile strength of iron and steel, both in the shape of bars and plates. Unfortunately, however, many of the tests have been carried out with rude testing machines, rendering it difficult to obtain a true result of the endurance and strength of the metal under investigation. In addition to this a large proportion of the specimens tested have been of short lengths of metal, varying from 2 in. to 4 in., and in all such cases a higher tensile strain has been noted

A NEAT DWELLING.

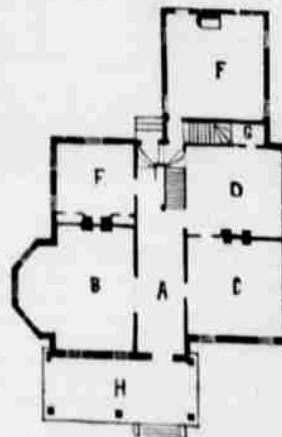
In the planning of houses and the ornamentation of their exteriors and interiors, there is wide room for the application of individual tastes. What would please one home-maker would not another. In our choice of designs to present to our readers, we have made a wide diversity in styles that each might choose according to his liking. The design which we



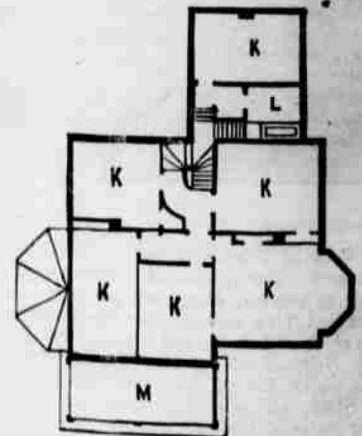
DESIGN FOR DWELLING HOUSE WITH FRENCH ROOF.

than can be depended upon in practice, while the elongation has also been much overstated, a large proportion of the extension of the specimens arising from a contraction of area, or what is called "breaking elongation." With an accurate and sensitive testing-machine, the maximum load is always carried in the mild ductile metals when about five-eighths of the elongation has taken place; the remainder, down to the point of breakage, is developed with a

give on this page is another from the establishment of Isaac H. Hobbs & Son, architects, of Philadelphia, Pa. It is quite different from the light and airy cottage exteriors which we have given before. It is rather more severe in outline; the feature of the building being the French roof. It is quite flat above, but the upper rooms are kept from overheating by the downpouring of the sun's rays, by leaving an air-space between the roof and the ceilings of



FIRST FLOOR.



SECOND FLOOR.

gradually reducing load. Ordinary iron boiler-plates and hard steels are an exception to this law, and nearly universally break with a maximum load, but with little or no reduction of area.

THE Asia Minor reform programme, includes English officers commanding the mixed Christian and Mussulman police, English assistant judges for Courts of Appeal, and English approval in the appointment and dismissal of head taxgatherers.

the upper rooms. It is estimated that the house can be built of frame, as shown in the plans, for \$2,500 where materials is of average cost.

The floor plans are explained as follows: A, hall, 8 feet wide; B, parlor, 18 by 20 feet; C, library, 14 by 16 feet; D, dining room, 14 by 16 feet; E, chamber, 12 by 14 feet; F, kitchen, 16 by 17 feet; G, china closet; H, porch.

In the second floor, K represents the chambers; L, bath room; M, veranda.