habit of web spinning that renders the insect so injurious where it once obtains a foothold. The flour becomes felted together and lumpy and the machinery becomes clogged and necessitates frequent and prolonged stoppage, resulting in a short time in the loss of thousands of dollars in large establishments. Upon attaining full growth, the caterpillar usually leaves its original silken domicile and forms a new web, which becomes a cocoon, in which to undergo its transformations to pupa and to imago.

Although the larva prefers flour or meal, it will attack grain when the former are not available, and it flourishes also on bran, prepared cereal foods, including

FIG. 4.—*Ephestia kuehniella*: a, moth; b, moth, from side, resting; c, larva; d, pupa—enlarged; e, abdominal joint of larva—more enlarged (b, c, e, from Insect Life; a and d, from Chittenden).

buckwheat grits and crackers. It has recently been discovered that this moth is inquilinous in the nests of a wild bumblebee in California, and Mr. D. W. Coquillett reports that it also occurs in the hives of the honey bee.

M. Danysz has demonstrated that the insect is able to complete its life cycle in from two to two and a half months, but from experiments conducted during the year at Washington it is estimated that under the most favorable conditions, i. e., in the warmest weather, the life cycle consumes about five weeks. In its outdoor life there are probably not more than two or three broods in the year, but in well heated mills or other buildings six or more generations may be produced.

This insect is rapidly becoming distributed throughout the civilized world, but as yet its range is limited. As might be inferred from its alarming destructiveness in Great Britain and Canada, this moth is peculiarly qualified for an indoor existence in much colder climates than most other grain insects.

When a mill is found to be infested, the entire building should be fumigated, and in case a whole district becomes overrun, the greatest care must be observed not to spread the infestation. Uninfested mills should be tightly closed at night and every bushel of grain, every bag or sack, brought into the mill, subjected to a quarantine process, being disinfected either by heat or bisulphide of carbon.

THE INDIAN-MEAL MOTH.

(*Plodia interpunctella* Huebn.)

A phycitid moth allied to the preceding and known as the Indian-meal moth is widely distributed and injurious to a great variety of edibles. It is nearly omnivorous, feeding on grain and farinaceous products of all kinds, dried fruits, seeds and nuts of various sorts, condiments, roots and herbs. It is even injurious to dried insects in cabinets, and is said to feed on sugar, jellies and yeast cakes, and is occasionally troublesome in bee hives. In short, this moth is an all around nuisance in granaries and stores and in the household. It is the caterpillars of this species which are so often found in dried apples, currants, raisins, English walnuts, etc.

FIG. 5.—*Plodia interpunctella*: a, moth; b, chrysalis; c, caterpillar—somewhat enlarged; d, head, and e, first abdominal segment of caterpillar—more enlarged (from Chittenden).

The adult moth, as will be seen by reference to the accompanying illustration (Fig. 5, a), resembles in general contour *Ephestia kuehniella*. It measures across the expanded wings between a half and three-fourths of an inch. The inner third of the fore wings is dirty whitish gray, and the outer two-thirds is reddish brown, with a dull coppery luster. The caterpillar is shown at c, e and d, and the chrysalis at b.

Aside from its omnivorousness, the habits of the Indian-meal moth are essentially the same as those of the preceding species. The larvæ surround themselves with cylindrical silken webs, in which they feed and undergo their transformations.

Experiments conducted during the past year show that the insect is capable of passing through all its several stages, from egg to adult, in thirty-three days, which furnishes a possibility of six, seven, or even more generations in the heated atmosphere in which it habitually lives.

THE MEAL SNOUT-MOTH.

(*Pyralis farinalis* Linn.)

A moth belonging to the family Pyralidæ often occurs in barns and other buildings wherever farinaceous products are housed. In Europe, where it is known as the "meal moth," it has long been known as a domestic nuisance, and in this country it is evidently on the increase.

The meal snout-moth is slightly larger than any of the species previously mentioned, having a wing expanse of nearly an inch. The ground color is light brown, with reddish reflections; the thorax and the dark patches at its sides and near the tips of the fore

wings are darker brown. The wavy, transverse lines of the wings are whitish, and form the pattern indicated in the illustration (Fig. 6, a). The caterpillar

FIG. 6.—*Pyralis farinalis*: a, adult moth; b, larva; c, chrysalis—natural size; d, head of larva; e, anal segment of same; f, tip of pupa—enlarged (from Chittenden).

and chrysalis are figured, natural size, at b and c, respectively. The habits of the meal snout-moth are similar to those of the two preceding species.

THE WOLF MOTH.

(*Tinea granella* Linn.)

Still another moth, known as the wolf moth or little grain moth, does considerable injury to stored cereals in Europe; but as it is not particularly destructive in America, requires only passing mention. This species is of about the size of the Angoumois moth, creamy white in color, thickly mottled with brown. Like the latter, it is known to oviposit in grain in the field. It infests cereals of all sorts, and a single caterpillar is capable of great damage, as it has a habit of passing from one grain to another, spinning them together with its webs as it goes until twenty or thirty grains are spoiled. When full grown the caterpillars crawl all about the infested mass, leaving their webs everywhere, thus injuring even more than they consume.

(To be continued.)

THE HABITABILITY OF OTHER WORLDS.

Prepared by Prof. C. A. YOUNG, of Princeton, for the New York Herald.

FOR some reason not quite obvious to the professional astronomer, there seems to be an extreme popular interest in the question of the habitability of "other worlds," and of late it has been greatly intensified by the rather sensational speculations and deliverances of Flammarion, Lowell and others—speculations based upon new discoveries reported within the last ten or fifteen years, some of which are doubtless real, while others are still more or less questionable.

I may as well say at the outset that, in my judgment, we have not yet any satisfactory basis for a confident opinion. The available data are insufficient, and, what is worse, they in some cases seem to indicate opposite conclusions.

As to the general question whether the stars and planets are the abodes of life, we can, of course, say positively, on the one hand, that they may be. Plainly the omnipotent Deity can, if he sees fit, organize forms of life suited to any possible conditions, creatures that might flourish in the solar fire or in nebular fog. On the other hand, there is not the slightest valdevidence that such creatures exist. Considering the "vast emptiness" between the stars, and the lifeless ages of the earth's early history, as revealed by geology, one cannot argue that material globes must be inhabited. Unoccupied space, lifeless millenniums and worlds uninhabited all fall into the same category of unexplained use.

But, if we narrow the question, and inquire as to the possibility of forms of life such as we are acquainted with upon the earth, the case is different. We are able to say at once, and with absolute confidence, that there are only two among all the heavenly bodies observable with our present telescopes upon which anything like terrestrial life could possibly exist. The two are Venus and Mars; upon all the rest the conditions are clearly too different from our own.

But the limitation must not be lost sight of—there may be, and very likely there are, circulating around some of the distant suns planets not very unlike the earth and well enough suited for even human life. But, if such planets exist, we cannot see them with any telescope yet constructed or ever likely to be. To make them visible would require lenses from 50 to 100 feet in diameter.

Speculation may be allowable in the premises, but dogmatism certainly is not.

As to the planet Venus, we need say very little here. In diameter, mass, density and the force of gravity upon her surface, she is the earth's twin sister. She is so much nearer than we are to the sun that she receives from him almost twice as much heat and light as we do, but as to the character of her surface, we know almost nothing. Unquestionable observations prove that she has a denser atmosphere than ours, and it is probably always filled with cloud.

At any rate, no distinct and well marked features have ever been detected on her surface, and there is no reason to suppose that the cloud veil has ever lifted.

With Mars the case is different; we know more about him than we do about any other heavenly body, the moon excepted.

We may reckon up our stock of certain knowledge about this planet somewhat as follows:

In the first place, its orbit is about once and a half as large as the earth's, and it makes its circuit in 687 days, at a distance from the sun which ranges between 128,000,000 and 150,000,000 miles, the mean being 141,500,000. Once in every 780 days the earth overtakes it, passing between it and the sun, and if this happens in the latter part of August, the distance between us will be the least possible—only about 35,000,000 miles.

No other heavenly body, except the moon and Venus, and now and then a comet, ever come so near.

Still, this is not so very near, after all. Thirty-five million miles is 147 times the distance of the moon, so that, even with a magnifying power of a thousand (and only the largest telescopes, under the most favorable conditions, can ever use so high a power to advantage), we see the planet's surface just as we view the moon through a common field glass magnifying seven times. And most of our observations are made, of course, at a distance much greater than this minimum.

Moreover, since the planet's distance from the sun

averages something more than once and a half that of the earth, it is certain that Mars receives less than half as much solar heat and light as we do—an unquestionable and most important fact.

In the next place, we know that the diameter of Mars is about 4,200 miles (somewhat more than half that of the earth), and that it rotates in 24 hours 37 minutes 22.65 seconds around an axis so situated that the planet's equator is inclined about 24° to the plane of its orbit. This is so nearly the same as the inclination of the earth's equator that we safely infer that Mars must have seasons very like those of the earth, though notably modified by the considerable variations in its distance from the sun at different parts of its orbit.

In the third place, from the motions of its two little moons, we can calculate with certainty the weight or "mass" of the planet, and we find it to be less than one-ninth ($\frac{1}{9}$) that of the earth. From this it follows also that the planet's average density is 72 per cent. that of the earth, and the force of gravity upon its surface is not quite 38 per cent. as great as here.

A man who here weighs 160 pounds would there weigh only 60 pounds. If he were able here to jump to a height of five feet, there he would jump 13. So far as this condition goes, a Martian elephant might be as agile as a terrestrial deer.

Thus far there is no guesswork. We have stated knowledge, not speculation.

Once more. There are clear indications of an atmosphere upon the planet, though they are not such as to enable us to calculate with certainty its extent and density. The atmosphere ought to be much less extensive and dense than ours, on account of the lessened force of gravity, and if the so-called "dynamical theory" of gases, now almost universally accepted among physicists, is true, it must be a little body, like the moon, or Mars cannot permanently retain an atmosphere like our own.

The inference is borne out, too, by the fact that clouds are only rarely observed upon the planet. As a rule, we see the features of its surface unveiled and clear. There is probably never a time when a distant observer would be able to see half the seas and continents of the earth unclouded and exposed to view.

Whether the Martian atmosphere contains any sensible quantity of water vapor is still a debated point. Some of the earlier observers reported that they could distinctly make out the characteristic lines of this substance in the planet's spectrum, but some of the best recent observers, notably Prof. Campbell of the Lick Observatory, have reached an opposite conclusion.

And now we come to a question of great difficulty—that of the planet's temperature.

Since the planet's atmosphere is certainly not dense, it is natural to conclude that the temperature at its surface, even if the sun's heat there were as intense as here, must be practically the same as that of places on the earth where the density of the air is correspondingly low, namely, at the tops of the loftiest mountains in the regions of perpetual snow.

And, recalling that on Mars the solar radiation is less than half as intense as here, the inference is almost irresistible that the temperature must be appallingly low, so low that, as on the moon, water, if it exists at all, can exist only as ice.

And yet while many astronomers—I myself for one—are disposed to think this probably true, it is only an inference, and not a certain one. Nor can it be denied, as we shall see, that phenomena observed upon the planet look very much like the deposit and melting of polar snows, the flow of water and the growth of vegetation.

It may be, perhaps, as Flammarion has suggested, that the planet's atmosphere, though rare, has some peculiar constitution that makes it more effective as a "blanket" than our own in its power to retain the solar heat; or it may possibly have some unknown source of heat; or again it may be that Fay's modification of the nebular hypothesis is correct, and that Mars, instead of being an older planet than the earth, as commonly supposed, may be a younger one, still retaining considerable of its original heat of condensation, and not yet cooled down to a permanent temperature corresponding to its distance from the sun.

But unless some cause operates to give it an abnormal temperature, the discussion need go no further. Life resembling that upon the earth could not exist there. The time may come, perhaps, before very long, when we may have heat measuring instruments of sufficient delicacy to give us certain information whether the planet's temperature is below zero or is similar to that of our habitable earth. Till then judgment hangs suspended.

As a telescopic object Mars is fine. Its ruddy disk is diversified with patches of greenish hue, which, in a small telescope, seem to form a sort of irregular belt around its equator, with several projecting angles which thrust themselves down into the northern hemisphere. The telescope invests the planet much as South America and Africa and India reach toward the south upon a terrestrial globe.

These dark regions cover about a third of the ball, and, until recently, have generally been interpreted as seas and oceans, and are named accordingly. But later observations make this very doubtful by showing such changes in their form and appearance, and such markings upon them, as to suggest rather that they are areas covered with vegetation.

Then, near one or the other of the poles, there is usually a "polar cap" of dazzling whiteness, and these caps grow and wane with the planet's seasons (as the elder Herschel discovered more than a century ago), just as they would do if they were composed of ice and snow. Sometimes, also, though rarely, as has been already said, there are whitish veils of cloud that obscure for a time the well-known features and shortly vanish. All the time the planet whirls, and as the night wears on continents and seas pass slowly in review, coming up from the eastern edge of the disk and descending upon the western.

If the telescope is powerful enough, Hall's two little moons will be seen—Phobos, hurrying from one side to the other, close to the planet, and so rapidly that it takes him only three hours and three-quarters to make the whole excursion, while the smaller and more distant Deimos is more than four times as deliberate in his motion.

But the most interesting objects, if one can see them, for they require a keen eye, a first rate instrument, and

perfect atmospheric conditions, are the fine, dark, threadlike lines which cross the ruddy portions of the disk in various directions, in a most curious and suggestive manner. A few of them were noted as rather ill-defined shadings, long ago, but it was Schiaparelli, the Milanese astronomer, who, in 1887, first discovered them in any number, and named them "the canals," as resembling watercourses of some sort, running from sea to sea.

As to their real nature, there is still much doubt. Those who ignore the temperature difficulty, and believe that the polar caps are really sheets of snow which melt in the summer, for the most part accept the suggestion which the name implies, and regard them as marking the track of channels, natural or artificial, through which the water that results from the melting of the ice caps is distributed over the arid plains near the planet's equator. They suppose, at least this is the view of Flammarion and Lowell, that what we see is not the watercourse itself, but the fringe of vegetation which springs up along its banks when the water comes, like the harvest of the valley of the Nile.

And this certainly accords very well with the fact that these canals are not equally visible at all times, but are sometimes fairly conspicuous, while they vanish at others.

Possibly, too, one might deduce from this theory a satisfactory explanation of a very strange phenomenon exhibited by many of them, their "gemination," as it is called. They double themselves at times. A canal which had been a single, thin, dark line is replaced in a day or two by two that are exactly parallel and separated by a distance of from 100 to 250 miles. Some of these canals are over 2,000 miles in length, and appear to be as accurately straight as lines can be upon a sphere. They seem to follow a true great circle course.

At their points of intersection—and in several instances as many as half a dozen seem to converge as accurately to a single point as railroads to a city—small dark spots appear, which have received the name of "lakes." Mr. Lowell, however, prefers to call them "oases," believing them to be patches of vegetation which are formed where the converging channels bring an especially abundant supply of moisture.

And the fact that, according to Schiaparelli and the Flagstaff observers, some of the canals appear to invade, and pass across, the so-called "seas," of course proves, unless there is some error or illusion in the observations, that these darkly shaded regions are not bodies of water, but marshes, fields or forests.

We should have noted, as removing an objection to this watercourse theory of the "canals," that, so far as can be judged from observations, the planet's surface is much more level than that of the earth. There is no evidence of lofty mountain ranges, though a few projecting bright spots have been noted at the boundary of day and night on the planet's surface, which may indicate elevations having the height of two or three thousand feet.

And it is to be admitted also, I think, that no other explanation of the "canals" as yet proposed satisfies the reported appearances so well as that of watercourses. The only one not absolutely contradicted by direct observations is that they are fissures and wrinkles in the planet's crust, produced by its shrinkage over a comparatively unyielding nucleus. But, then, what is to be made of their "gemination"?

We have thus set forth the conditions of the planet so far as they appear to bear upon its possible habitability by living beings resembling in essential characteristics those that inhabit the earth. If we put aside, as Flammarion and Lowell have done, rather airily, we think, the serious difficulty as to temperature, and assume with them that the planet's water supply is extremely scanty—which can hardly be doubted, if water exists there at all—and that the planet's surface, for the most part an arid waste, is to some extent made fertile by the channels which distribute the water derived from the melting polar snow caps, it is clear that we have a condition of affairs which might make habitability of the sort contemplated a not absurd hypothesis.

And yet the great difference between the earth and Mars as to thinness of the atmosphere, the absence of clouds and the lessened force of gravity and solar radiation must necessitate a wide difference between the inhabitants of the two worlds.

Next comes the question whether, granting the possibility of life upon the planet, we have any evidence of its existence.

As regards vegetable life, its existence is, of course, assumed in the very plausible explanation which Lowell and Flammarion give of the "canals" and the seasonal changes observed in the features of the planet's disk. And they go further. Mr. Lowell finds evidence of intelligent design and engineering skill in the—according to him—perfect straightness of the long watercourses and the precision with which numbers of them converge to or diverge from certain centers. And he enters into interesting speculations as to the ability of the people of Mars to perform feats of engineering quite beyond our human powers.

In the first place, owing to the feebleness of gravity there the "men" of Mars might attain a strength and stature nearly three times as great as ours without incumbrance from their own weight, and dealing as they would have to with rocks only a little more than a third as heavy as they would be here, their work would be greatly more effective.

Then, too, Lowell, basing his speculation upon the generally received form of the nebular hypothesis (which, contrary to Faye's theory, makes Mars an older world than ours), argues that the Martians already possess the engineering skill, machines and appliances which we shall have upon the earth some ages hence.

Human beings may then find themselves upon a world nearly dried up, and may have to undertake irrigation on a scale suggested by what we see upon our neighbor.

Both Lowell and Flammarion remind us, however, very properly, that we must beware of assuming that the "men" of Mars—its intelligent inhabitants—are vertebral bipeds like ourselves. If intelligent beings exist there, the probabilities are strong that they are very different from us in ways which we can hardly conjecture, since the difference between the earth and Mars in physical conditions must almost necessarily have determined different lines of development on the two planets. Flammarion suggests, in a caprice of speculation it

would seem, that the Martians are winged creatures, but whether bats, birds or butterflies, he does not attempt to decide.

There has been some speculation as to the possibility of establishing communication with our hypothetical neighbors, and some enthusiastic amateurs have reported glittering spots upon the planet's disk, and have tried to interpret them as hailing signals from the distant world.

These "lights," however, were in all probability mere reflections from favorably situated surfaces of the same material that compose the polar caps; and there is not the slightest probability that with any instruments we now possess we could distinguish any signals they could make. And, if we could, who could read them?

Still, it is always wise to be reticent in denying the possibilities of the future, and no less so to be cautious in accepting as ascertained truth the startling conclusions and unverified discoveries of imaginative observers. It is so easy to see what one expects and wishes to find, especially on a disk so small and delicately marked as that of Mars.

A LION-FACED BOY.

A COMPANY of Lilliputians was recently exhibited at Castan's "Panoptikum," in Berlin, the most interesting member of which was unquestionably Stephan Sedlmayer, alias Bibrowski, the lion-faced boy. The bright little fellow is one of those rare specimens of human abnormality that are often called hairy men because of a growth of hair extending all over the body, but especially abundant on the face.

Stephan Sedlmayer is, to quote Rudolf Virchow, "a

A LION-FACED BOY.

remarkable example of a hairy human being," and as such he aroused great interest in the Berlin Anthropological Society, to which he was shown by the learned man just referred to. His whole face, with the exception of the eyelids and the red portions of the lips, is covered, the blond hair growing over all of the forehead down to the eyebrows, so that his head looks very like that of a dog or lion. This impression is heightened by the peculiarly shy expression of his eyes and his rather large mouth and irregular teeth. The trunk and extremities of his body are also well covered with hair, which is particularly thick along the vertebral column. Otherwise his body is normal and strongly built. His mental capacity compares very favorably with that of other boys of his age and class; he is intelligent and has a mild and confiding disposition. He is a master of the German language and also of Polish, his mother's language, for Stephan was born in the government of Warsaw.—Illustrirte Zeitung.

In comparing equal weights of wood and metal, the latter does not always prove the stronger. For example, a bar of pine just as heavy as a bar of steel, an inch square, will sustain 125,000 pounds, the best ash 175,000 pounds, and some hemlock 200,000 pounds, without breaking. The best steel castings made for the United States navy are rated at a tenacity of 65,000 to 70,000 pounds to the square inch. By solidifying such castings under a great pressure, a tensile strength of from 80,000 to 150,000 pounds has been attained. Fine steel wires and ribbons from ingots give a tenacity of 800,000 pounds to the square inch of cross section. Ordinary aluminum is only one-third as heavy as steel. A bar of it, with a section of three square inches, will hold up 78,000 pounds.

SELECTED FORMULÆ.

Hypo Baths in Warm Weather.—In warm weather the hypo bath is apt to be troublesome. It rapidly evaporates, changes color and stains the negatives, and often acts deleteriously on the gelatine film. I add to my bath chrome alum and acid sulphite of soda. The bath now not only remains quite clear and clean, but clears and hardens the negative, making washing easier, in that the tendency to frill is minimized. The bath may be kept for several weeks; indeed, it may be used until it changes from a bright green color to a brownish tint. Of course, in very warm weather, the bath should be kept cold by standing the tray containing it in a pan of ice water an hour or so before development is commenced. The bath I prefer is made up as follows:

Hypo.....	4	oz.
Chrome alum.....	$\frac{1}{4}$	"
Acid sulphite of soda.....	$\frac{1}{2}$	"
Water.....	1	qt.

Dissolve the hypo, add the chrome alum, then filter and add the sulphite. Evaporation of the bath is prevented by keeping the dish covered when not in use.—Helping Hints.

To Mask the Odor of Ichthyol.—In order to render the application of ichthyol less unpleasant, it is recommended (Therap. Monats.) to combine the same as follows:

Oil citronella.....	25	parts.
Oil eucalyptus.....	25	"
Ichthyol.....	950	"

Oil of Pinus sylvestris may be used instead of those given, but a much larger quantity will be required.—Western Druggist.

Cough Syrup.—

Honey.....	3	lb.
New England rum.....	3	pt.
Extract of licorice.....	1	oz.
Tincture opium.....	1	"
Wine of ipecac.....	2	"
Wine of ipecac.....	2	"
Wine antimony, of each.....	1	oz.
Syrup of wild cherry.....	14	"
Acetate of morphia.....	12	grm.

Dose, one-half to one teaspoonful.

Thick Sauce.—Take of

Moist sugar.....	1	lb.
Raisins.....	$\frac{1}{2}$	oz.
Onions.....	4	oz.
Powdered ginger.....	3	"
Salt.....	4	"
Mustard.....	8	"
Garlic, crushed.....	2	"
Large ripe apples.....	20	"
Soy.....	10	oz.
Tamarinds.....	1	lb.
Curry powder.....	1	oz.
Vinegar.....	7	pt. 8 oz.

Stone and bruise the raisins, pound the onions and garlic finely in a mortar, pare and core the apples, and boil them with the other solid ingredients in the vinegar until soft; then rub through a sieve; add the other ingredients and mix thoroughly; lastly, add enough vinegar to make a thick, pourable, pasty fluid that just flows from the bottle.—Brit. and Col. Druggist.

Cosmetic Powder.—Under this general head may be included all the various pulverulent substances employed as cosmetics. The following are typical formulas:

1. Sweet almonds (blanched).....	18	oz.
Beans (ripe, dry).....	18	"
Orris root.....	8	"
White Spanish soap.....	6	"
Spermaceti.....	$1\frac{1}{2}$	"
Dried carbonate of soda.....	1	"
Oil of bergamot,		
Oil of lavender,		
Oil of lemon, of each.....	6	dr.

Mix, beat or grind to fine powder and keep this from the air. Used with a little water, to clean, whiten and soften the skin, in lieu of soap.

2. Almond powder.....	1	lb.
Cuttlefish bone (powdered).....	5	oz.
Curd soap (air-dried, powdered),		
White castile soap (air-dried), powdered,		
of each.....	$2\frac{1}{2}$	oz.
Orris root (in fine powder).....	$1\frac{1}{2}$	"

Mix, and pass the whole through a fine sieve. Used to clean, soften and whiten the hands and to prevent chaps and chilblains. It may be varied by substituting honey, palm oil or Windsor soap for those ordered above.—Pharmaceutical Era.

Blackboards, an Improved Liquid Composition for.—This liquid for surfacing blackboards used in schools is composed of:

Ferrous oxide.....	340	parts.
Linseed oil.....	120	"
Resin.....	43	"
Manganese oxide.....	28	"
Lead protoxide.....	28	"
Turpentine.....	400	"
Benzine.....	6	"
Lampblack.....	35	"

The oil, resin, oxide of manganese and lead oxide are heated together up to the point of oxidation and until the resin is dissolved; the turpentine and benzine are then poured in and the mass allowed to cool, after which the lampblack and ferrous oxide are added. Patented in England.—Journal of the Society of Chemical Industry.

Ink for Writing on Glass.—Take 20 parts of brown shellac, and dissolve in the cold in 150 parts of methylated spirit; dissolve 35 parts of borax in 250 parts of distilled water; then slowly pour the shellac solution in the borax; the mixture may then be tinted to any color by adding a solution of a water soluble dye, for instance, violet, with one gramme of methyl violet. This ink is said to be indelible, and to allow the marking of bottles without having recourse to labels, which are so readily destroyed.—Pharmaceutical Journal.