Proprietors and Foremen.

A correspondent of *Wood and Iron* asks what he shall do under the following circumstance: He says that he is foreman of a certain shop, but that he is foreman only in name. The proprietor, who, he says, has no mechanical knowledge, continually interferes with the men, giving them orders contrary to his directions. He asks our advice as to whether he had "better quit or kick him out of the shop." We have been, says the editor, in precisely that situation ourselves, and we think on the whole he had better seek "pastures new." Where a proprietor of that kind interferes in the management of the shop at all, he will continue to do it, and the less he knows about mechanics, the more he will interfere.

A little incident in the life of the late President Rutter, of the Lake Shore Railroad, may not be out of place as illustrating the relative positions of proprietor and foreman. When Mr. Rutter first became general baggage agent for the Vanderbilt system, he came upon a very knotty problem, and not knowing what decision to give, he went to Vanderbilt for advice on the subject. When he had stated the case, Mr. Vanderbilt turned to him and asked: "What salary do we pay you?" "Eight thousand dollars a year." "What do we pay it to you for?" "For acting as general baggage agent." "Well, do you want me to earn your salary for you?" Mr. Rutter immediately came to a decision, and never again troubled Mr. Vanderbilt with his conundrums.

SCIENCE IN TOYS.

IX.

THE TOY MICROSCOPE.

The world of the minute existing beyond the range of the unaided vision is little realized by those who never have had an opportunity of using the microscope. The beauty and perfection of the smaller works of nature can never be fully known through the medium of literature or art; the objects themselves must be observed by the student personally.

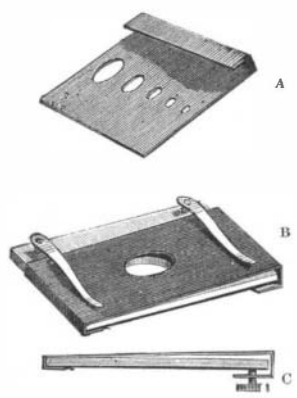


Fig. 2.—DIAPHRAGM AND FINE ADJUSTMENT.

In every pond and stream may be found microscopic forms of life. In every plant and flower, upon leaves and stalks, among the sands and rocks, almost everywhere in all seasons, may be found objects of absorbing interest to the student of microscopy. Animals and insects, food and manufactured articles, yield objects which may be examined microscopically with pleasure and profit. Chemistry and mineralogy afford attractive fields. In fact, one so inclined cannot fail of finding objects of interest with little difficulty.

Some have erroneously supposed an expensive instrument and elaborate accessories necessary to the pursuit of microscopical investigations. These things are, of course, desirable; but when one has learned all that can be learned by the aid of the simple and inexpensive microscope shown in the engravings, he is very far advanced, and may with propriety present his instrument to some one unable to purchase for himself, and proceed to the selection of something better suited to his advanced position in microscopy.

The microscope referred to was devised, at the suggestion of the writer, by one of our leading manufacturers. It costs six dollars and fifty cents, and although not as complete and convenient as more expensive instruments, it is more perfect and satisfactory than its predecessors of the same price.

It is 8 inches high, and has a draw-tube, which permits of extending it to a height of 11 inches. The foot and arm are of japanned iron. The tubes are well finished and lacquered. It has an objective divisible into two powers. The mirror may be swung over the stage for the illumination of opaque objects. The instrument has a neat cherry case, in which it may be placed when not in use

To the instrument as received from the manufacturer is applied a home-made diaphragm, as shown at A, in Fig. 2, and a fine adjustment, as shown at B, C, in the same figure. The diaphragm consists of a piece of perforated thin sheet metal, extending along the under surface of the stage and neatly bent over the outer edge of the stage, so as to be self-supporting—the perforations of the metal being respectively one-sixteenth, one-eighth, three-sixteenths, one-fourth, and five-sixteenths inch diameter, all arranged on a longitudinal line of the metal plate intersecting the axial line of the microscope tube, so that the centers of the holes of the diaphragm may be made to coincide with the center of the hole in the stage.

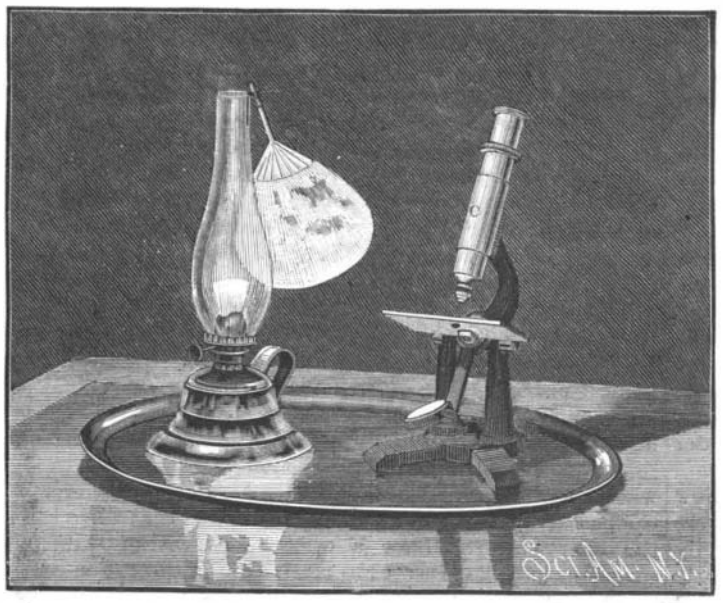


Fig. 3.—SUBSTITUTE FOR REVOLVING TABLE.

The attachment for fine adjustment is made by bending one end of a thin metal plate twice at right angles, so that it will spring on the side of the stage and clamp the stage tightly. The opposite end of the metal plate is bent in a similar manner, but the space between the body of the plate and the bent over end is made wider, to permit of a small amount of movement of this end of the plate. In the portion of this end of the plate extending under the stage is inserted a screw with a milled head, by means of which the free end of the plate may be made to move either up or down through a small distance. The body of the plate is inserted under the stage clips, and the object slide is inserted between the clips and the plate.

The instrument has no rack adjustment, but the main tube slides easily and smoothly in the guide tube, so that little or no difficulty is experienced in focusing. Besides the instrument and accessories, only the following articles will be required to begin in earnest the study of microscopic objects: A small pair of spring forceps, a bottle, a teaspoon, a few concaved glass slides, a few thin cover glasses, a glass drop tube, a small kerosene lamp: and if the investigator desires to entertain his friends microscopically, he will need a Japanese or tin tray, large enough to contain both microscope and lamp, as shown in Fig. 3, so that the relation of both may be preserved while the tray is moved to bring the instrument into position for different observers, by simply sliding the tray on the table.

A little caution as to illumination is necessary, as the beginner is generally unsparing of his eyes, using far too much light. A blue glass screen placed between the mirror and source of light, or between the mirror and the stage, modifies the light so as to greatly relieve the eyes.

The lamp should be provided with a shade of some sort to prevent the light from passing directly from the lamp to the eyes. A small Japanese fan suspended from the chimney by a wire, as shown, forms a very desirable shade.

Most objects viewed by transmitted light in an instrument of this class require an absolutely central light, that is, the light must be reflected straight upward through the object and through the tube.

When opaque objects are examined, the mirror is raised above the stage and made to concentrate the light on the object. Different angles of illumination should be tried, as some objects are greatly relieved by their shadows, while others require illumination as nearly vertical as possible.

Experience will soon indicate the right magnification for different objects. This may be varied by taking off or putting on the lower half of the objective, also by drawing out or pushing in the draw tube.

Various forms of apparatus have been devised for gathering objects from ponds and streams; but much can be done with no other aids than the spoon and bottle above mentioned. The mud at the bottom, scraped up with the spoon and placed in the bottle, will probably be found to contain microscopic life in abundance. The under surface of leaves of aquatic plants and of grasses hanging over into the water may be scraped with the spoon, and more or less of the matter adhering thereto will be secured. Occasionally a long leaf like that of the flag may be lifted from the water and traversed by the spoon with good results. Small twigs and dead leaves floating in the water are often found teeming with life. The thousands of animalcules and forms of minute plant life found in water will afford the most zealous student a life-long supply of subjects for examination.

Fig. 4.—TRANSFERRING OBJECTS TO THE SLIDE.

The objects are transferred from the bottle to the concavity of the slide for examination in the manner shown in Fig. 4. The drop tube, which has a funnel-shaped top, is stopped by the finger at the upper end, while its lower end is inserted in the water in the bottle above the matter to be removed. The finger is then removed and some of the water, together with the objects carried by it, rushes upward into the tube. While the lower end of the tube is still in the water, the finger is again placed on the tube and the tube is withdrawn from the bottle and held over the cavity of the slide, as shown in the engraving, when a drop or so of the water is forced out by pressing down the end of the finger on the top of the tube; the soft end of the finger acting as a sort of diaphragm in forcing out the required amount of water. Care must be taken to avoid getting solid matter upon the slide around the edge of the cavity, as it will prevent the cover glass from seating itself properly. The cover glass is placed over the cavity and pressed down lightly to squeeze out the surplus water, when the slide may be inserted under the clips of the stage and examined.

It would be futile, in a paper like this, to attempt anything more than the mere mention of a few of the interesting objects that may be seen to advantage in a small microscope. In Fig. 5 the engraver has beautifully shown some of the common objects which are easily secured, readily examined, and always interesting. At 1 in this engraving are shown various seeds; the lace-covered one at the top being the seed of the *Nemesia compacta*. The seed in the center is that of heather. That on the right of the lace-covered one is the seed of the poppy. The fringed one below it is that of the climber. At the bottom of the disk the seed of sorrel is shown at the left, and portu-

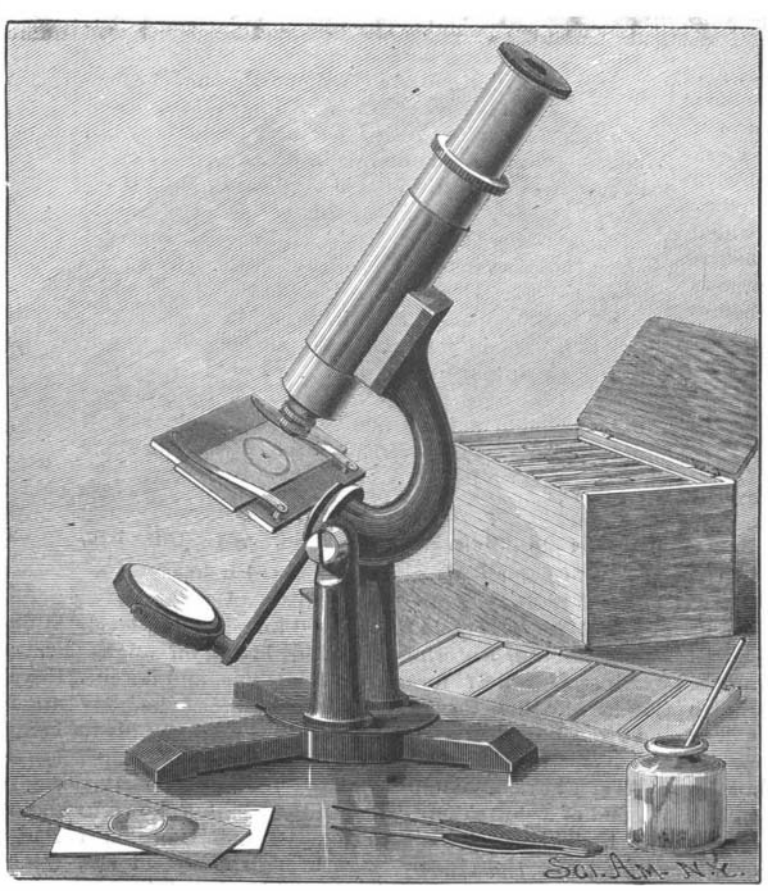


Fig. 1.—THE TOY MICROSCOPE.

lacca at the right. The remaining seed at the left is that of eucharidium.

2 represents the proboscis of the blowfly as it appears in the field of the microscope, except that the intricate structure of the pseudo-trachea is not shown in the cut as it appears in the microscope.

3 shows the doubling hooks of a bee's wing, which enable the insect to connect the wings of each pair so that they may be used as a single wing.

4 shows the silicious stellate hairs on the back of a deutzia leaf. The upper half of 5 shows several forms of diatoms, and the lower half is filled with desmids.

In 6 branchipus is shown at the top, cyclops at the left, a young cyclops at the bottom, and daphnia or the water flea at the right. These are common in almost every pond.

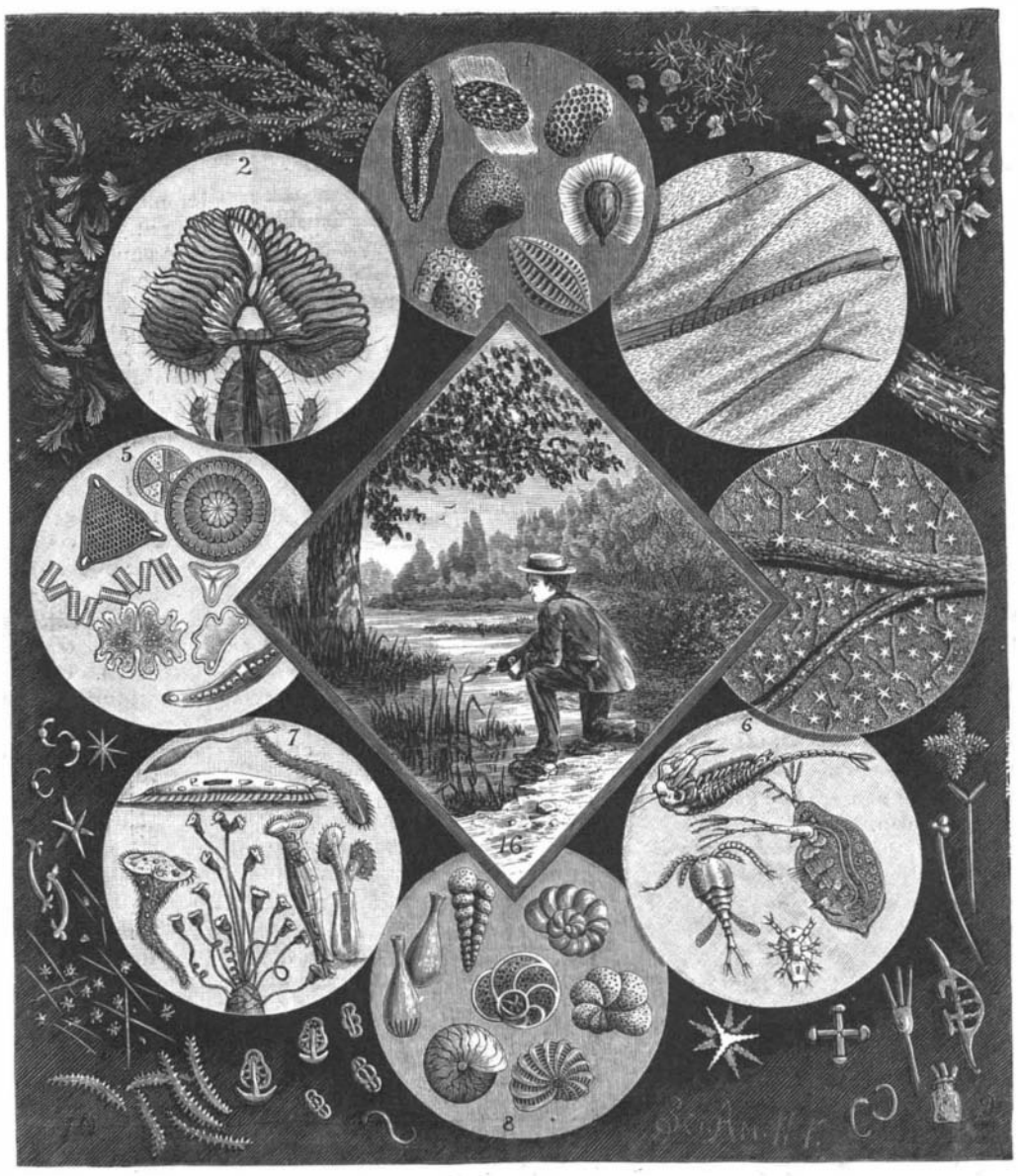
In disk 7 are shown on the left the stentor, so named on account of its trumpet-like form; in the center the beautiful and sensitive vorticella, and upon the right of the vorticella common rotifer, and upon the extreme right the sheathed trumpet animalcule. All of these have cilia around their margins, which by their peculiar vibratory motion give the bell-shaped mouths the appearance of rotation. In the common rotifer, and in the animals shown in disk 6, the internal organs may be readily seen in operation.

In the upper part of disk 7 are shown a few of the hundreds of forms of life found in water in which animal or vegetable matter has been infused.

In disk 8 are represented a number of the exquisite little shells of foraminifera. At 9 are shown various spicules of sponges, sea urchins, etc. At 10 are shown sponge spicules and the anchor of *Synapta inherens*. 11 shows the pollen of marsh mallow, and 12 and 13 are examples of plant hairs. 14 shows arborescent crystals of silver, and 15 the fern-like crystals of gold.

The following books are recommended to the beginner in microscopy: Wood's "Common Objects for the Microscope;" "One Thousand Objects for the Microscope," by M. C. Cooke; "Evenings at the Microscope," by Gosse; and "Practical Microscopy," by George L. Davis.

G. M. H.



1. Seeds. 2. Tongue of Fly. 3. Bee's Wing. 4. Deutzia Leaf. 5. Diatoms and Desmids. 6. Entomostraca. 7. Infusoria, Rotatoria. 8. Foraminifera. 9. Spicules. 10. Spicules and Plates. 11. Pollen of Marsh Mallow. 12. Plant Hairs. 13. Shepardia Canadensis. 14. Crystals of Silver. 15. Fern Gold. 16. Gathering Objects.

Fig. 5.—VARIOUS MICROSCOPIC OBJECTS.

Hemp Cultivation in Yucatan.

The cultivation of hemp (heniquen) is the principal agricultural industry of Yucatan, and of this the greater portion is imported into and consumed in the United States, the imports thereof during the year 1885 amounting to 36,401 tons, valued at $2,564,000. We are, therefore, largely interested in this industry, which is carried on in a very primitive manner. The plant, says Consul Thompson, to whom we are indebted for the following facts relative to its cultivation, is a species of agave. It is best propagated by cuttings, the young plants being allowed to grow at will until three years old, after which they are transplanted into regular rows and fields. Eight years are given them to mature into plants able to bear the cutting, and then the result of these years of patient waiting will continue to flow uninterruptedly for many years if moderate care be exercised. The leaves are cut by a peculiar instrument, a cross between a sickle and a carving knife, called by the natives corba, and are made into a systematic bundle of about 25 each, and carried by the laborers upon their backs to the tram car or cleaning wheel, where they are passed through the process before mentioned. This cleaning wheel is the only kind of agricultural machine, as we understand the term, in use upon the farms of Yucatan. Even the plow is practically unknown. Each mecate of hemp land should produce yearly four arrobas of merchantable hemp. Arroba is the equivalent of 25 lb., therefore each acre, or 10 mecates, should yield at least 1,000 lb. of heniquen fiber ready for shipment.

To cut and pack 1,500 leaves is considered to be an ordinary day's work. These 1,500 leaves, when cleaned and dried, will produce about 3 arrobas, or 75 lb., of fiber. One cleaning wheel with two men to tend it is calculated to clean easily 7,000 leaves per day. A 400 lb. bale of fiber—cut off from the plant, but still in the leaf—is estimated to cost $4, or 1c. a pound; when cleaned, bleached, and baled ready for shipment, the cost is probably a small fraction over 2c. per pound. A hemp plantation containing 10,000 mecates, or 1,000 acres, should produce annually 1,000,000 lb. of merchantable hemp.

Heniquen fiber is the principal article of export from Yucatan to the United States. During the fiscal year ending June 30, 1884, there was exported from Progreso, Yucatan's port of entry, heniquen fiber having a value of over $2,500,000, American gold. During the calendar year of 1884, the amount of hemp shipped to all parts from Yucatan reached the figures of 233,311 bales, averaging 400 lb. per bale. The value of the above, expressed in Mexican dollars, is $3,334,609. In American coin the value is expressed at $3,045,304. The duties and taxes of state and national governments amount to the sum of $137,000, Mexican money. Over six-sevenths of the above exportation went to the various ports of the United States, New York leading with 187,978 bales.

A scourge of locusts harasses poor Yucatan, and under this bane all agriculture, save the single product hemp, droops. Fields of maize are planted and thrive for a while, only to be devoured level with the ground in one short hour by a host of the pests. The heniquen plant for some reason seems to be let severely alone by them. This is providential, and enables the planter, by selling his fiber, to obtain from the United States the grain that the locusts deprive him of the power to raise at home.

Picrate of Ammonia in Malarial Diseases.

Dr. H. Martyn Clark, of the Amritsar Medical Mission, Punjaub, has treated no less than 10,000 cases of malarial diseases with picrate of ammonia, and in half the cases he has kept a record. In nine cases out of 5,000 did the picrate fail, and in these quinine cured at once. The usual dose is from ⅛ grain to 1½ grains four or five times a day in pill. Half a grain is a fair average dose. Thus given the result is soon visible. In the great majority of the cases treated, ½ grain doses in the interval prevented the recurrence of the next attack of the fever, while in about 20 per cent of the patients two or three attacks followed before the fever ceased. In only one case of quartan ague, despite large doses of the salt, the fever recurred for six periods, gradually diminishing in intensity, and then yielded to it. It is equally successful in all the forms of ague, but it is a curious fact that the cases in which it failed to cure were all of the tertian variety. Dr. Clark has also employed this agent in the treatment of twenty-five cases of malarial neuralgia of various nerves, six cases of malarial headache, and one of malarial colic. In all these instances it cured completely and speedily. In addition to being cheaper and given in smaller doses, picrate of ammonia does not produce the unpleasant effects that quinine does, such as headache, deafness, tinnitus, etc.; nor does it, like quinine, disorder the digestion or cause nausea, as quinine does in India.

A Spontaneous Effusion.

Brick Pomeroy's *Democrat* has a high appreciation of this paper, as the reader will conclude when he reads the following unsolicited editorial notice, taken from a recent issue of the *Democrat:*

The SCIENTIFIC AMERICAN is in fact what the Bartholdi statue is in theory—the giver of light and conveniences to the world. It has encouraged and stimulated the inventive genius of the country, and thus helped to develop thousands of ideas that are now positive facts and most useful blessings to humanity and great helps to progression. Year after year it has opened the door for new thoughts to enter. Never has it joined in the senseless, deadening yawp of over-production. On the contrary, it has ever urged the bringing forth of the new, the multiplying of devices and inventions, and the making and giving of employment to millions in this country who to-day are engaged in useful avocations that were unknown when the writer of this was a boy. The world moves, and more of the credit than people think for is due to the SCIENTIFIC AMERICAN and its help to make Americans scientific. It is published by Munn & Co., 361 Broadway, New York, at $3 a year. The SCIENTIFIC AMERICAN SUPPLEMENT, 16 pages, weekly, $5 a year. The two, $7 a year. It is no uncommon thing for one number of either to benefit the subscriber more than ten times the yearly subscription for both publications, especially if he has a brain for machinery and a desire to lead on from one thing to another.

The Variable Star Algol.

Estimating the distance of Algol from the ascertained distance of the few stars which are near enough to have had their parallax accurately measured, it would take light not less than thirty years to reach the earth. We see Algol, not as it is to-day, but as it was thirty years ago. When we see its brightness dimmed, the phenomenon which we are observing is one which actually occurred thirty years ago, the light which left the star at that time having just reached our eyes. During those thirty years the image of that phenomenon, if I may so express it, has been on its rapid way toward us. But less than three days after it started, when it had just commenced its journey, having come only fifty thousand million miles on its way, another period elapsed, another partial obscuration took place, and the image of that started on its hitherward course. This was followed, three days later, by another, 50,000,000,000 miles behind it; and that by another, and another; and thus, during the whole period of thirty years, the life of a generation, these successive images have been winging their way toward us. There are 127 of these periods in a year, and nearly 4,000 in thirty years. When, therefore, we see the obscuration of Algol, we know that 4,000 such obscurations have taken place since the one we are observing, the images of which are following each other at invervals of 50,000,000,000 miles along the vast space which separates us from that wonderful star.—*Henry M. Parkhurst.*

AMONG the numerous collectors of curiosities of every kind who abound in Paris, there is one wealthy virtuoso, according to the *Pottery Gazette*, who amuses himself by collecting deaths' heads and skeletons fantastically carved or modeled in marble, earthenware, wood, or precious stones. These he has gathered together in a kind of museum of death, which at first sight seems hideous and *macabre*, but on closer inspection proves highly interesting. Some of the heads have been detached from those old mediæval rosary beads which were usually ornamented on one side with the profile of a king or a saint, and on the other with the grinning face of a skeleton.

Uncle Sam's Curiosity Shop.

It may not be known to many out-of-town readers of the SCIENTIFIC AMERICAN that the United States court in which patent cases are tried in this city is held in the Post Office building.

It is necessary to know this fact to understand what impelled a newspaper reporter to climb so high to find the miscellaneous articles he describes.

"Climbing flight after flight of stairs in the Post Office building, by an inside passage, until there was nothing between him and the sky except the roof, an *Evening Sun* reporter, very much out of breath, reached at last the curiosity shop of Uncle Sam. Two large rooms and a small one are devoted to the curiosities. They are piled up on the floor in great heaps, while tiers of long, broad shelves are filled with them. There are so many of them that the custodians would very much like to get rid of them. But they are preserved with jealous care. They are the exhibits made by contesting parties in patent cases. The testimony is taken on the floors below in the offices of the United States Commissioners, and the exhibits, after being properly marked for identification by the examiner, are stowed away.

"It needs but a cursory glance to come to the conclusion that nearly everything that man uses is patented, and that nearly everything that is patented has to fight infringements, or at least what are claimed to be infringements.

"Bundles of cloaks, corsets, hats, ready-made clothing, and hat sweats are piled up on the middle shelves. Hoopskirts, frames used for clothing in shop windows, fire screens, patent medicines, and paints add variety to the scene. The 'shoo-fly' rocker is largely represented, made in the shape of a bird.

"The floor of the smaller room is completely covered with a pile of school furniture. High up on the wall hangs a model of a sliding car door. Near it are several sets of heavy iron shutters. Huge furnaces rest by the side of tiny oil stoves.

"The veteran exhibit is a specimen of the first refrigerator invented. It consists of a barrel within a barrel, the spaces between the inner and outer one being filled with brick. The inner barrel is divided by a partition, one side being intended for the ice and the other for the storage of the articles to be preserved. An equally curious exhibit is the model to show how wet tan is burned. It is made of tin, and consists of a large number of curiously arranged boxes.

"There is a full collection of railroad signals, with white and red headlights. One of the towers is a leaning tower. Near by is a set of electric bells, a patent bottle stopper, a hopper, a cotton press model, and a great variety and number of scuttles. Patent pails are equally numerous, and there is a large assortment of tin oil cans. A very odd spring has a triangular base, with a straight rod working up and down.

"Among the most profitable inventions is the nail driver and puller. Another is the patent egg box, with its numerous compartments, made with straw boards. Photograph instruments, bed springs, and odd wagon springs rest side by side. Several yellow bags, curiously tied, arrest the attention. These are intended to show how hams are tied up. The style of tying is patented. Patent cuspidors occupy an upper shelf. Just under them are a number of coffee mills.

"There is a very interesting bit of machinery for making barrels and hooping and heading them. On the shelf above it is an equally curious exhibit of a brick machine. Two very clumsy and heavy exhibits are the models of a machine for making boot heels, and another for manufacturing envelopes. The latter is old-fashioned and very complicated. Two other clumsy exhibits are the knitting and ruffling machines, and also one for pegging.

"Soda fountains are very numerous, and there are buttonhole and kid glove machines, with countless sewing machines, whole and in parts. Only a small fraction of the entire collection has been named. It is apparent that in the matter of a patent, eternal vigilance is the price of success."

Exhibition of Locks and Keys.

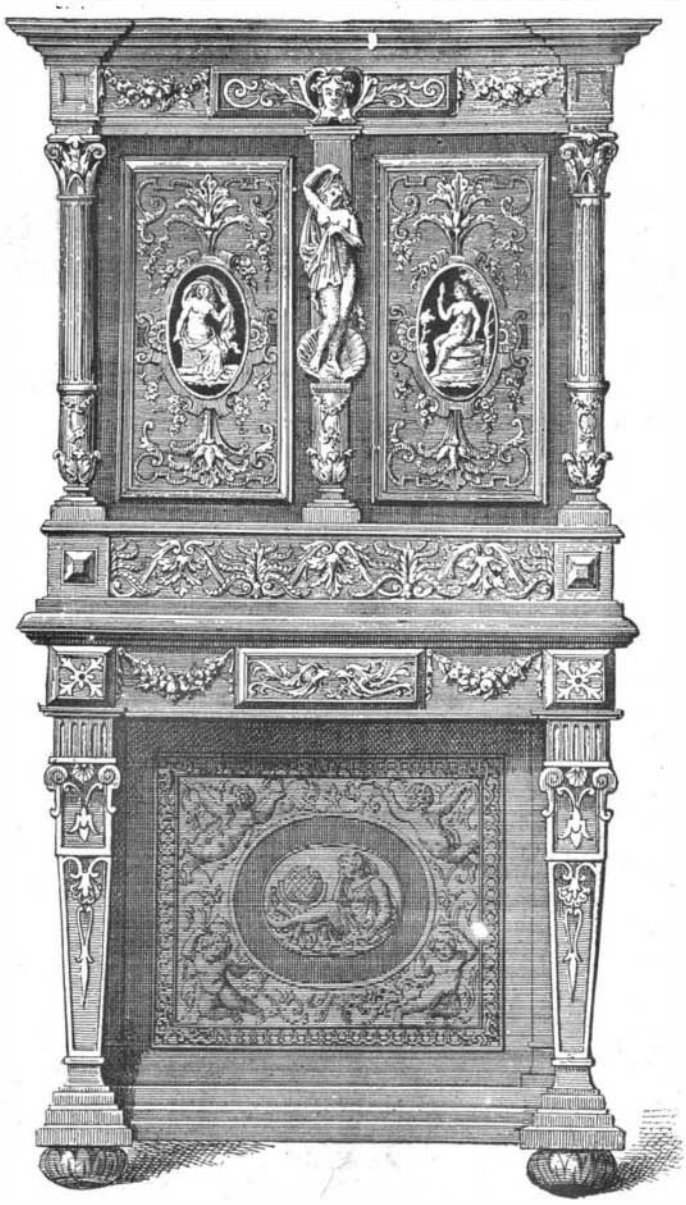
An Austrian locksmith, Herr Andreas Dillinger, has been for eighteen years collecting locks and keys of ancient and modern manufacture. The work was undertaken with a view to benefit the locksmith trade, by diffusing useful knowledge, and the articles were first exhibited two years ago, in an industrial museum at Vienna. On the initiative of the Educational Department of the Austrian Ministry, the collection was sent for exhibition into various towns in Austria, and after the round was completed Herr Dillinger carried his collection to Germany, and exhibited it there in various important industrial centers, the last in turn being Berlin, where the collection has recently been on view. It contains 606 different locks, the earliest examples dating from the year 400, and the latest being quite modern. Among the collection are seventeen locks from the middle ages, which, in point of workmanship and artistic design show the high state to which this industry was developed in those times.—*Industries.*

THE DECORATION OF A HOME.

In the "Grammar of the Decorative Arts," by Prof. Charles Blanc, of the College of France, and a member of the Academy, the author tells us that "effects of

VENETIAN GLASS—SEVENTEENTH CENTURY.

perspective are absolutely forbidden in the decoration of the floor," and that "in furniture the straight lines should be mainly vertical and the curved lines mainly horizontal in direction." In the beautiful cabinet of which we give an illustration, though the vertical lines are partially destroyed, enough of them remains to give a sense of stability. The top has no pediment, but is terminated with a straight line, affording a shelf on which vases, busts, or other beautiful things may rest. The pillars are carved and channeled and cut away, and yet do not suggest want of strength, because their burden cannot be great. The elaborate carving on the whole front is very rich, and suggests that a cabinet of such workmanship would be a worthy repository of precious trophies as well as serve its other and ostensible purpose of decorating an apartment.



FRENCH CABINET—SEVENTEENTH CENTURY.

The seventeenth century glass shown in our illustration is the product of the period at which Venetian art is considered to have reached its highest point. The workmen of that period attained extraordinary facility in twisting and drawing out the ductile mass into the most elaborate forms, intertwining and working together stems and wreaths of various colors. The points of support were usually very slender, and these objects were consequently so fragile that comparatively few of them have come down to us.

Although Venice, from the twelfth to the fifteenth centuries, introduced the glass manufacture to France, Germany, England, and other countries, and for a long period maintained an undeniable leadership in this industry, she has obtained no especial distinction therein since the latter part of the last century. Nearly every general industrial exhibition continues to have brilliant examples of the products of the Venice and Murano Glass Company, but the company is composed chiefly of English capitalists, and glass beads constitute probably the larger part of the Venetian glass manufacture to-day.

Do Something.

A man who kept quite a number of men employed in different ways, so that largely they could not be under his immediate control, complains, in the *Industrial Gazette*, that the worst trouble he had was to secure men upon whom he could rely to do something. He would tell them plain enough what he wanted, and then start them out. If anything should turn up different from what they had expected, the larger proportion of his men would come back without accomplishing anything.

As an illustration, he had a man with a team handling bridge lumber quite a distance from one of his saw mills to a railroad shipping point. By securing a reasonably early start, the team could make a good load every day. One afternoon, as he was returning with a load, and had got perhaps half way home, in coming down a hill, through a strip of timber, one of the hind wheels struck a stump and, by some means, broke the axle of the wagon. The man always carried an ax and an extra chain or two, especially to guard against accidents. He was in timber where, with very little trouble, he could have arranged something that would have enabled him to have taken his load into town. He might have been a little longer than usual. Instead of this, he pulled his load to one side of the road, unhitched his team, and mounting one of the horses, rode into town. His employer did not happen to be at home, so nothing was done until the next morning, when he borrowed another wagon and went out and brought in the lumber, and then, leaving the wagon, rode out, rigged a pole under the broken axle, and brought the wagon to town to the shop. Another day was lost in getting the wagon repaired. At least a full day lost more than was necessary, simply because he could not see that it was his business to do something. "I could," he said, "have stood a heavier loss with better grace if the man had only tried to do something rather than spend his time doing nothing. He could at least have shown a disposition to do the best he could. There are plenty of men who see a thing, routine work, done every day, and yet if they were told to do the same thing, would ask to be shown how. They learn nothing from observation. They may see lumber piled up every day, or see and even help put up machinery, load a car with certain material; yet ask one of them to go ahead and do by themselves just what they have been helping do, and they will want to be shown how. They are either incapable or indifferent of learning by observation, or even helping. With some this is simply the result of thoughtlessness. They do not stop to think that they are failing to work as they should to their employers' interests. With others, it is simply indifference. So the day's work, or time rather, is put in; it is a small matter whether the work accomplished is in any way profitable to the employer or not.

A great many employers will recognize their own experience with indifferent, thoughtless employes in the above well told story from our excellent Western contemporary.

A Curious Clock.

A correspondent in *The New Church Messenger* describes a clock recently patented in France, in imitation of a tambourine, on the parchment head of which is painted a circle of flowers, corresponding to the hour figures of ordinary dials. On examination, two bees, one large and the other small, are discovered crawling among the flowers. The small bee runs rapidly from one flower to another, completing the circle in an hour, while the large one takes twelve hours to finish the circuit. The parchment surface is unbroken, and the bees simply laid upon it, but two magnets, connected with the clockwork inside the tambourine, move just under the membrane, and the insects, which are of iron, follow them.