Improved Hollow Auger.

Hollow augers are generally used by wagon makers and wheelwrights for tenoning the end of the spoke where it enters the felly; they may be used, however, on any other work requiring similar treatment.

This auger is remarkable for the celerity with which it can be accurately adjusted to any desired size. This is done by turning the plate, A, Fig. 2. This plate is also shown in Fig. 1. The ends of the jaws, B, are received in the scroll grooves, C, and the jaws themselves are forced in or out by turning the plate in one or the other direction. Two of these jaws have cutters, D, while the other two are guides to prevent the cutters from taking hold too rankly. When the cutters are set properly they are held fast by turning the nut or collar, E, at the back. This auger is intended to be used with a brace or power, and has a square shank or rod on one end to adapt it for either purpose. Mechanics using these tools will find this one convenient. One especially for chairmakers' use is now in course of manufacture. It is made by the Douglas Manufacturing Company; address them or Sargent & Co., at 70 Beekman street New York.

Fig. 1

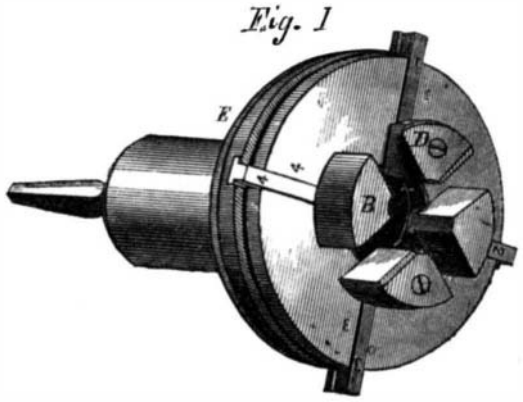
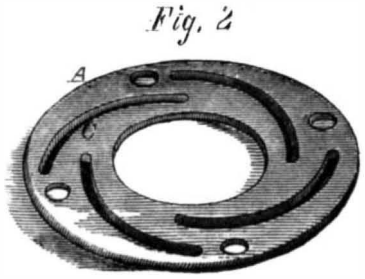


Fig. 2



EXPANDING HOLLOW AUGER.

GRAPERIES AND HORTICULTURAL BUILDNIGS.

One of the most delightful objects of interest to be met with in the city of Paris, in the month of June, is the extensive exhibition and sale of rare and beautiful flowers. The art of flower and fruit culture has attained much greater perfection in France and England than in this country. We are a bustling, money-getting people, and, as a general thing, consider the time given to mere flower culture as so much wasted. This taste, however, we are happy to observe, has greatly improved within a few years, and the business of the nurseryman in this department is now quite large. An extensive grower of hot plants, from information carefully gathered among his fellow nurserymen, estimates that the plant trade of the vicinity of New York reaches nearly the sum of $200-000 annually. One cultivator has stated, that during the fall of 1863 and winter of 1864, he cut and sent from his establishment 230,000 blooms of the various flowers he cultivates.

Small greenhouses or conservatories attached to dwellings are now frequently met with, both in city and country, and when joined to the dwelling to be entered from some one of the principal rooms, forms a feature of great attractiveness and pleasure.

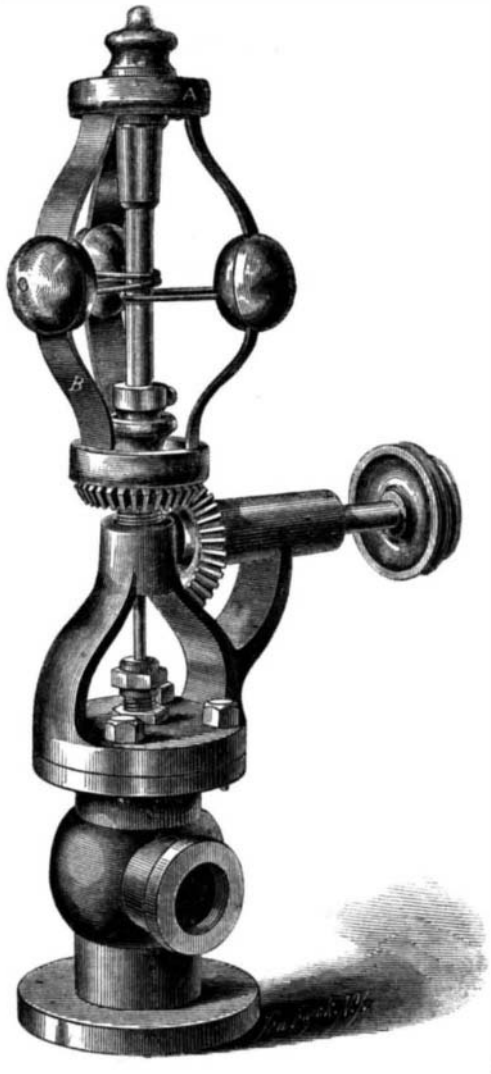
The culture of choice varieties of exotic grapes is also rapidly increasing, both in hot and cold graperies. The luscious Frontignac and the Hamburg will repay the care and expense of a well-constructed glass-house for their propagation. There is no great mystery in regard to their culture, for any person of ordinary capacity can soon learn how to manage them. One of the most important things connected with the cultivation of rare grapes and flowers is to have a thoroughly-constructed glass-house. Information upon this subject is fully supplied in a recent volume entitled "Woodward's Graperies and Horticultural Buildings," just published by Geo. E. and F. W Woodward, No. 37 Park Row. It contains twenty designs, and supplies a great amount of practical information hitherto difficult to be obtained except from professional men.

The Oil Regions.

A disgusted newspaper correspondent in the oil regions writes to a Cincinnati paper from Oil City:—"It is really astonishing to what indignities the people who are hunting oil will submit. The hotels are crowded and dirty. The street is one sea of diluted mud, which the struggling horses splash and splatter all over the houses and people. It is worth the price of a good suit of clothes to promenade Main street in Oil City for two days. But oil seekers do more than this. They go on foot up the creek to the 'oil diggings,' over such roads as they never before walked on. And here, too, they are subjected to the same splashing process that prevails on the streets of the city. The road is but a continuation of the streets in all respects, and the pedestrian finds every tired horse or mule on the way just in the act of stumbling over some hidden rock, at the critical moment when his blundering foot can scatter most of the diluted mud. The result of this state of things is apparent. Thousands who come to see are satisfied—no, disgusted—with the first night, and rush away by the morning train. It requires the impetus of a sure prospect of gain to induce one to remain more than a day, while only those who are making a 'pile' will consent to live here."

PICKERING'S GOVERNOR.

A very noticeable feature in this governor is its simplicity. It is free from joints and pins that must



fit tightly to operate properly, and has the fewest possible pieces to obtain the desired end—a certain and rapid control of the motion of the engine.

In detail, this governor is merely an upright shaft, with two brass heads, A, one of which is connected to it, while the other—the top—is movable on it. The springs, B, are fastened to these heads at the top and bottom, and when rotary motion is applied to the shaft the balls on the springs fly out, precisely the same as with the old-fashioned governor; this causes the top, A, to move down on the shaft and depress the valve stem, which runs through it, thus regulating the flow into the steam chest of the engine. The valve itself is balanced, and is a cylinder with circular openings.—The speed at which this size runs is 475 revolutions per minute.

Large numbers of them are in use in various parts of the country, and in a recent visit to this office the inventor informed us that he was much behind his orders. It is very reliable, not apt to get deranged, and, in other respects, suitable for the purpose required of it.

This invention was patented through the Scientific American Patent Agency, Oct. 7, 1862, by Thos. R. Pickering, of New York; for further information address Pickering & Davis, No. 144 Greene street, New York City.

New Apparatus for Compressing Air.

An English journal thus speaks of a new method of compressing air, lately designed abroad:—

An improved apparatus, by means of which atmospheric air or gases may be compressed in volume to a far greater degree than has yet been accomplished by other means, such highly compressed air or gas being applicable to various useful purposes, has been provisionally specified by Mr. T. Coughin, of Bermondsey, England. He proposes a succession of pumps and receivers, the first pump receiving a supply of air from the atmosphere, and forcing the same into a receiver, whence it is conveyed to a second pump, already compressed; the second pump is then brought to bear upon the compressed air, which is then forced into a second receiver, and so on to a third or further series, and ultimately into a chamber or receiver of any kind or form, according to the purposes for which it is required. He proposes to make the diameter of the first pump larger than the second, and the second larger than the third, in order to compensate as far as possible the power required to actuate each according as the air or gases are more and more highly compressed in each. The pumps are to be set on a suitable foundation, above which, on standards, a shaft and fly-wheel are supported, to be turned by hand or steam power; on the shaft an eccentric or crank is keyed, in order to work the plunger of the first pump. The shaft is also provided with a cog wheel or pinion, on each side of which is a shaft and toothed wheel gearing with the central pinion, in order to actuate by similar eccentrics the other two plungers of the pumps. If more pumps are required they may be connected by similar gearing. The toothed wheel actuating the third pump should have a greater number of teeth than the second, in order that it may travel at a slower rate to operate upon the densely compressed atmosphere or gas; underneath, or at the side of each pump, is its receiver, connected by suitable tubes and valves, the whole series of pumps and receivers being thus in communication.

A METHOD has been discovered in Belgium to obtain a photographic groundwork for oil paintings. Fine canvas or silk, such as is employed for small and delicate works, is used. The process is simply to cover the surface with a preparation of collodion and chloride of silver, and expose and prepare it in the ordinary manner, just as in the case of paper.

THE King of Italy intends sending to the International Exhibition at Dublin a topaz weighing several pounds, and eight or nine inches long, having on it a beautiful engraving of "The Last Supper."