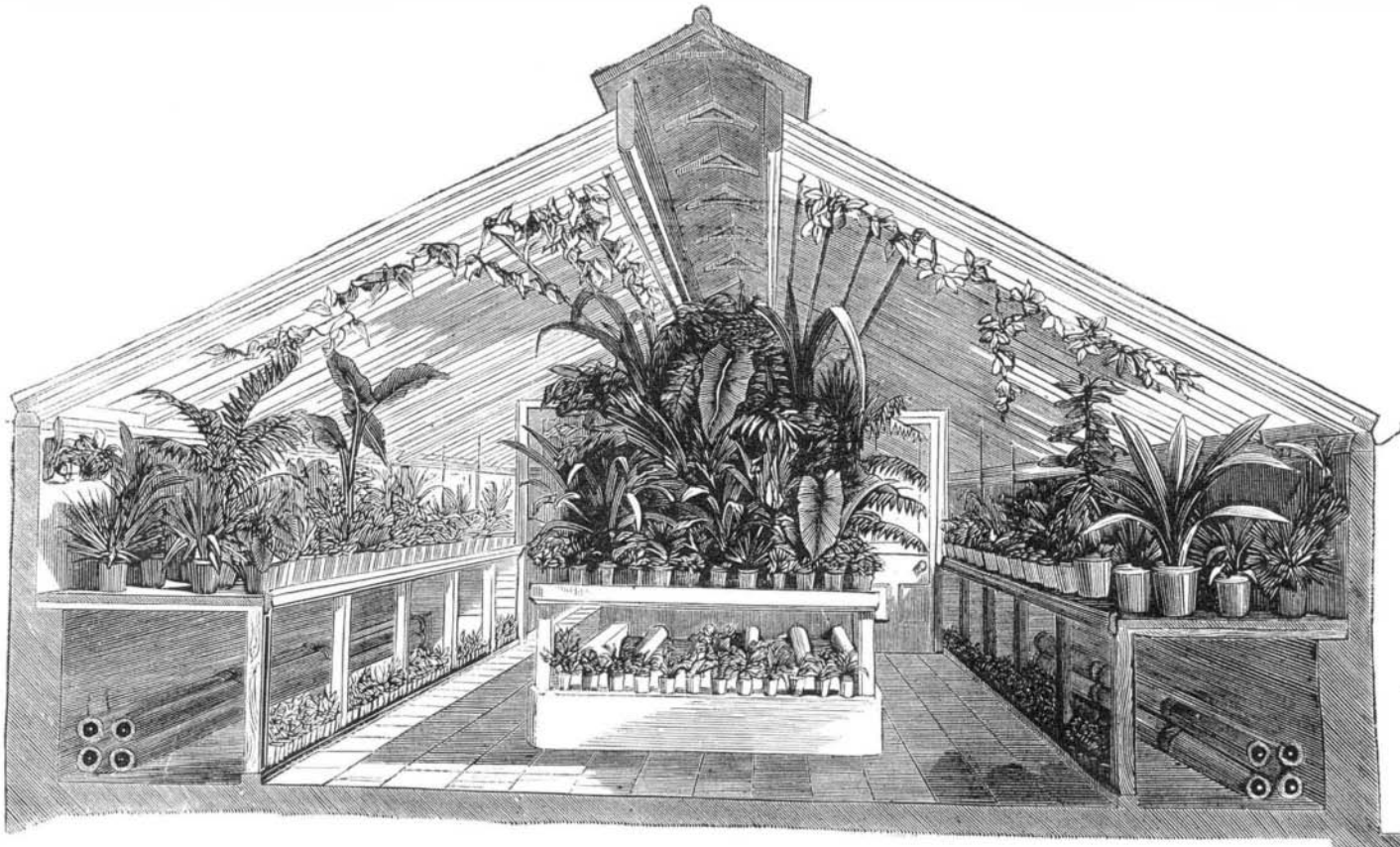


## INTERIOR OF A GREENHOUSE.

The annexed engraving represents a fine greenhouse lately constructed for William Bull, Chelsea, England, and is considered one of the most admirably constructed and conveniently arranged houses for plant growing of the present day.

The range is about 47 feet long by 20 feet wide, 4½ feet high at the sides, and about 11 feet from the paths to the apex of the roof. It is divided into two compartments, one being fitted for stove plants and the other as a greenhouse. Each division has a large center stage, and side stages with slate tops and wood supports. Under the middle stage, at each end, is formed a bed, in which are planted climbers, to be trained along the roof on light wooden trellis work. In the stove division there is also a hot water tank for evaporation.

The paths are tiled and bordered with cement curbs, on which upright supports of the stages are fixed. Ventilation is effected by means of iron boxes with sliding covers, built in the outer walls near the path level, and by an arrangement at the apex of the roof. This, as shown in the engraving, follows the form of the roof, and extends over the opening made therein sufficiently to prevent any chance of the rain falling or drifting into the side of the house. The ventilator is raised and regulated by a system of levers and quadrants, which being easily used gives greatly for maintaining the desired temperature in the house. In addition, the coal compartment has upright sashes in both sides; they are hinged at the top, and may be all opened when necessary.—*The Horticulturist*.



INTERIOR OF A GREENHOUSE.

California, in these words: The white Smyrna fig could be grown and cured as well here as in Smyrna or any of the countries on the Mediterranean. They cannot be imported at less than about twenty-eight cents a pound in bulk, and there are millions of dollars' worth sent to the United States annually. We should and could supply the market. Fig trees ten years old would give on an average one hundred and fifty to two hundred pounds of dried figs a year; and two hundred trees could be grown on an acre—making for the acre 30,000 pounds—which at ten cents a pound would give \$3,000. On the same subject, J. R. Johnson said he had been raising figs and marketing them a number of years; he had twenty good trees over ten years old; they averaged him ten dollars a year per tree. Fig trees must not be

It is claimed that in this way a light ball may be projected from a gun having a larger bore with greater velocity than from one which the ball accurately fits, owing to the difference in weight, friction, and surface of impact.

For further information address S. E. Jones, Santa Fé, New Mexico, or G. W. Coffin, North Springfield, Mo.

## New Method of Copying.

A novel method of rapidly and economically copying manuscripts and designs, whether produced by hand or photography, has been invented and patented in England by M. Eugenio de Zuccator. An ordinary letter copying press is used for printing from the design, which is formed upon a varnished metal plate. This plate, which is of iron, is either coated with a shellac varnish, and the writing or design to be copied then traced thereon with a metal point—or it may be coated with gelatin and bichromate, and the design produced by means of photography with a transparent positive. In any case the lines are formed of bare metal upon a surface of varnish. To the bed of the copying press is connected one wire of an electric battery, and to the upper plate of the instrument the other, so that when the press is screwed down, and the top and bottom plates come into contact, an electric current passes. The varnished metal plate, upon which a memorandum has been

scratched or otherwise produced, is covered with a few sheets of copying paper wetted with an acid solution of prussiate of potash, and then screwed into the press. As before stated, the characters or design upon the varnished plate are formed of bare metal, and in these parts, of course, an electric current is set up; this action permits of the union of the iron with the potash, and the consequence is that prussiate of iron, or Prussian blue, is formed in lines corresponding to those upon the varnished plate. Copies thus produced in blue ink may be printed at the rate of one hundred per hour.

## Value of Salt.

This substance is remarkable as constituting the only mineral eaten by man. Not only does it afford an indispensable and wholesome condiment for our tables, but it forms an essential constituent of the blood, and supplies to the human system the loss sustained by saline secretions. Its antiseptic properties are invaluable; but although it preserves, it ultimately changes and deteriorates the quality of the food to which it is applied, rendering the same innutritious and indigestible; for salt, notwithstanding its being a strong stimulant to the animal fiber, is not convertible into nutriment. This is the cause while sailors who subsist long upon salted provisions are subject to the sea scurvy. Its medicinal qualities are also remarkable. While all other saline preparations tend to cool, this but heats the body and engenders thirst. Some years ago, a medical man wrote a brochure in which he condemned the use of salt, attributing to it all the diseases to which flesh is heir. The poor fellow eventually committed suicide. Only lately, a book has appeared in which the writer, who is a physician, recommends salt as a sure antidote to the contagion of small pox. Doctors will of course disagree; but as variola is acknowledged to arise from a diseased or poisoned condition of the blood, the due use of salt may possibly form a safe and effective specific. Salt is not only an agreeable condiment, but also an indispensable requisite. When moderately used, it acts as a gentle stimulant to the stomach, and gives piquancy and relish to our food. In Africa, the high caste children suck rock salt as if it were sugar, although the poorer classes of natives cannot so indulge their palates. Hence the expression, in vogue among them, "He eats salt with his victuals," signifying that the person alluded to is an opulent man. In those countries where mineral salt is not procurable, and where the inhabitants are far removed from the sea, a kind of saline powder is prepared from certain vegetable products to serve in its stead. Indeed, so highly is salt valued in some places—such as Prester John's country—that from its very scarcity it is employed as a substitute for money.

THERE is a kind of granite, found in Finland, from which glass is made directly. Its composition is as follows: silica, seventy-four per cent; felspar, twelve; oxide of iron, three; lime, one; alkalis, with traces of magnesia, nine.

## The Hartford Steam Boiler Inspection and Insurance Company.

The Hartford Steam Boiler Inspection and Insurance Company makes the following report of its inspections in the month of January, 1871:

During the month there were 932 visits of inspection made, and 1,794 boilers examined—1,751 externally, and 491 internally—while 113 were tested by hydraulic pressure. The number of defects in all discovered were 1,291, of which 311 were regarded as dangerous. These defects were as follows:

Furnace plates overheated and contorted, 72—28 dangerous; fractures, 145—86 dangerous; burned plates, the strength being greatly reduced, 99—51 dangerous; blistered plates, arising from a want of homogeneity in the iron, 119—25 dangerous; sediment and deposit, 207—23 dangerous. These dangerous cases arose from the accumulated sediment preventing the water from coming in contact with the iron. The sheets were consequently overheated and buckled, and greatly weakened, unsafely so for the pressure carried. Incrustation and scale, 144—15 dangerous; external corrosion, 73—17 dangerous; internal corrosion, 30—5 dangerous. In these dangerous cases of external and internal corrosion, the boilers in places were worn so thin that smart blows of the inspector's hammer entirely penetrated the shell. We are aware that many old boilers are worked in a fearful condition. While the pump is sufficient to supply a little more water than leaks out through cracks and corroded spots, they are considered all right. Hence many steam users regard inspection of boilers as entirely unnecessary. They hold that a boiler will tell its own story, and give them due warning far better than an inspector. The boiler does frequently tell its own story, and it is one the steam user does not readily forget. As well might he neglect his house furnaces or stoves, and expect to escape accident and harm, as to allow a boiler known to be dangerously weakened to go unrepaired. Internal grooving, 9—1 dangerous; water gages defective, 44—17 dangerous; blow out defective, 9—1 dangerous; safety valves overloaded or out of order, 26—15 dangerous; pressure gages defective, 139—29 dangerous; boilers without gages, 4; cases of deficiency of water, 13—8 dangerous; braces and stays broken, 51—26 dangerous; boilers condemned, 13. There were 11 serious explosions during the month, by which 13 persons were killed and 18 wounded.

## Fig Culture in California.

W. H. Haynie, at a recent meeting of the Sacramento Farmers' Club, gave his idea of the cultivation of the fig in

crowded; they do better standing large distances apart, with the limbs trimmed horizontally, cutting the top of the tree off. They would run in this way like a grape vine, and one tree could be made to cover a quarter of an acre. The Italians dry their figs on dry sand. This giving a uniform heat, and they don't require turning, the sand becoming heated.

## JONES' IMPROVED PROJECTILE FOR FIREARMS.

We illustrate, in the accompanying engraving, an improved projectile, patented through the Scientific American Patent Agency, Feb. 20, 1872, by Mr. Samuel E. Jones, of Santa Fé, New Mexico. The improvement is in that class of projectiles with which a sabot is employed.

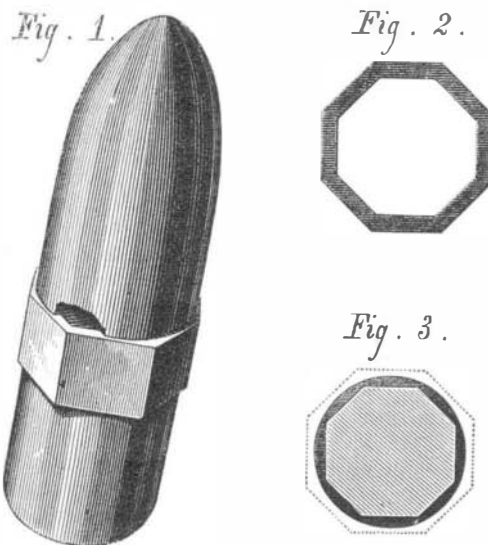


Fig. 1 represents the projectile with the improvement attached; Fig. 2 shows the form of the ring or band, which is a part of the invention; and Fig. 3 is a section of the projectile through the ring, showing the way in which the ring is applied, the patent covering an elastic prismatic ring, arranged in a prismatic groove of the projectile, this groove being made to correspond to the bore of the gun in which the projectile is to be used.

The prismatic groove is cut in the present instance so as to form an octagonal section, the perimeter of which is lower than the cylindrical surface of the projectile, indicated by the dotted outline in Fig. 3. The ring, shown in Fig. 2, may be of leather, rubber, or other elastic material, which, when slipped over the cylindrical part of the projectile, contracts upon the prismatic bottom of the groove, taking the same form exteriorly and interiorly, as shown in Fig. 1.

In this manner, the ring stands out on all sides of the projectile, so as to form a shoulder, practically enlarging the surface of the ball on which the powder gas acts.