Agricultural.

Sheep give two crops a year, one in the fleece and one in the lambs; sometimes three, for in California and Texas of deadly fever and various other fatal they shear twice a year.

On land that is worth \$100 per acre the product\_of each cow ought to be \$75 per year. If she will not do that she is not up to the mark of a good cow.

The best grass for wet land is redtop; to this may be added meadow spear grass, fowl meadow grass, and perennial rye grass. Of these about six pounds each may be used to the acre.

Taking Indian corn as the basis of comparison, we learn that 100 pounds of corn is equal in nutriment to 45 pounds of peas; 76 pounds of wheat; 83 pounds of oats ; 90 pounds of rye ; 111 pounds of barley; 153 pounds of peal vines; 333 pounds of corn stalks; 460 65 to 85 eggs per annum. By selecting pounds of oat straw; 500 pounds of wheat straw; 500 pounds of barley straw; 500 pounds of Irish potatoes; 925 pounds of rutabagas; 666 pounds of rye straw; 907 pounds of beets, and 1250 pounds of white turnips.

BIG POTATOES, -A correspondent writes us, over his own name, from Beloit, Kansas, as follows: "In your paper, February 1, you called attention to some potatoes raised in Dakota, which weighed 23 pounds. While in California, last October, I saw Irish potatoes that weighed 5 pounds, and quite a number. They raise some larger than those I saw, 6 to 7 pounds. This was in Santa Barbara county. At Los Angeles, saw a sweet potato that weighed 154 pounds. They say they have raised some that weighed 20 pounds. At Santa Barbara I saw a pumpkin that weighed leagle swooped down and carried it off. 2281 pounds, four feet long, and six feet in circumference.

GENERAL ITEMS .- Sowing clover with wheat in the spring, to be turned under in the fall, will pay. One bushel dying away as if at an increasing disof clover seed is enough to sow eight acres. Experience proves that the Turner is the best red raspberry, and the Gregg the most productive and profitable of the black caps. Both are indispensable. Now is the time to push trimming apple trees. When cutting off the limbs, cut each one off far enough out so as to leave the stump as long as the diameter of the limb whether it is a large or a small one. When working on small fruits the old wood should now be cut out of the raspberry and blackberry rows and the canes tied with carpet Africa. Pursuing a caterpillar was a

pigs. Milk from the cow, when given improper food or drink, affects cheese made from it more seriously than it does butter ; but in either case it is bad | The angel of the flowers one day enough, and when drank, is the origin

diseases. In experiments made at the New York experiment station with muskmelons, the Christiana proved most satisfactory among the varieties tried. One peculiarity of this melon is that the fruit as soon as ripe becomes de-

tached from the stem, so there is never any question as to when it ought to be plucked. A handful of sulphate of potash, or several times the quantity of wood ashes, added to each hill, was believed to improve the quality of the fruit grown.

A writer on the subject of laving. hens says he began with a flock, the average laying of each her being only for hatching from year to year the eggs of those hens that laid the greatest number, he brought them up in process of time to lay from 190 to 210 eggs each. We have well authenticated instances of hens laying 250 eggs in a single year, and even more than this number is guessed at. It is highly profitable under ordinary circumstances to keep hens which lay from 150 to 200 eggs per annum, but quite the contrary, if they produce only 60 to 80. The nonsitters are such as give the former; but the sitters, when of a good breed, will generally reach about two-thirds of this number. ns daily manager

## Odd Stories about Animals.

5011

As Stacy G. Sherman, of Stockton N. J., was about to shoot a rabbit, an A chicken ventriloquist is one of the curiosities of Concord, Ky. He crows with clarion notes, and then makes echo-like repetitions of them, gradually tance.

Among John C. Long's chickens at Columbia City, Ind., was a hen with a brood of eight little ones. Her coop had been raised high enough for her to pass in and out by means of a small piece of board. A large owl entered, and the frightened hen and her brood hastily ran out. The hen then flew against the prop, which fell, and made the owl a prisoner.

A singular combat between insects was witnessed by a traveler in South yarn to the wires. If stakes are used, host of small ants. An ant would mount upon a caterpillar's back and bite him. Pausing, the caterpillar would turn his head and bite and kill his tormentor. After slaughtering a dozen or more of his persecutors the caterpillar showed signs of fatigue. The ants made a combined attack. Betaking himself to a stalk of grass, the eaterpillar climbed up, tail first, followed by the ants. As soon as one approached him he seized it in his jaw and threw it off the stalk. The ants, seeing that the caterpillar had too strong a position for them to overcome, resorted to strategy. They began sawing through the grass stalk. In a few minutes the stalk fell, and hundreds of ants pounced upon the caterpillar, and he was killed, and the victors marched off in triumph, eaving the foe's body on the field.

### Horticultural.

#### The Moss Rose.

The angel of the flowers one day Beneath a rose tree sleeping lay— That spirit to whose charge 'tis given To bathe young buds in dews of Heaven. Awaking from his light repose The angel whispered to the rose, "O. fondest object of my care. Still fairest found, where all are fair, For the sweet shade thou giv'st me, Ask what thou wilt 'tis granted thee," "Then," said the rose with splendid glow, "On me another grace bestow." The spirit paused in silent thought— What grace was there that flower had not? "Twas but a moment—o'er the rose A veil of moss the angel throws. A veil of moss the angel throws, And, robed in nature's simplest weed And, robed in nature s simplest Could there a flower that rose exceed?

Orchard Management.

As the last snow drifts dwindle away and the ground dries off, the farmer takes a stroll through his orchard, and begins to make plans for a spring campaign. To decide just what is the best the conclusion to be drawn from the thing to do depends on circumstances, and often requires all the judgment of an expert horticulturist. Very likely the apple orchard has not been trimmed. We believe that the sooner this view is for some years. The tops are thick, and some of the lower limbs are dead as a disease like small pox or scarlet | painter, died, 1874. Petrarch crowned or dwindling ; the fruit small and of in- fever, whose course the physician canferior quality. Instead of using an axe not greatly modify, but whose danger or hand-saw and removing a quarter or we can, in part, avert, the better it will more of the large, lower limbs, thin out be for our science and our credit. a number of smaller limbs all over the outside of the tree. Avoid cutting any BETES .-- In a paper by Dr. G. Felizet. limbs over an inch in diameter. This read before the Academy of Sciences. takes a longer time to each tree, but August 14, says the Journal d' Hygiene, experience shows that it is best for the the author claims to have discovered a health, long life and productiveness of remedy for a disease usually regarded the trees. The more you cut out of the as incurable-saccharine diabetes. The top, the more numerous and vigorous author states that he has succeeded in will be the young sprouts in the centre putting an end to glycosuria artificially of the tree. In the hurry of summer's produced in animals, and that the work the average farmer is not likely medicine that suppresses the artificial to rub out or cut off these sprouts. In glycosuria will likewise cure diabetes in our severe climate where the sun's rays a few weeks or months. There exists, are let into the top, the bark on the says he, a bond of union between artifilarge limbs is likely to die. A little cial glycosuria, intermittent diabetes shade is preferable. A little trimming and confirmed diabetes, and that bond every year is far better than a heavy is irritation of the rachidian bulb. It trimming once in two or four years.

If the bark is scraped off the old trunks, be careful not to dig too deeply and disturb the portion which is alive. So far as the health of the tree is concerned, no doubt the rough bark does some good and no harm except to harbor a few insects. As the weather becomes warm scrub the trunks and large limbs with soft soap as thick as it can be well used.

If the rains are severe, a repetition will be valuable. Look out several different times during the growing season for borers at the surface of the ground and all along the trunk and large limbs.

### trees go to grass, after they have bee cultivated, not later than Aug. 1, for three or four years. Plum trees need about the same soil and cultivation as

Start the limbs very low and let th

peach trees, and not much trimming. To save the plums, remember what has often been written about jarring the trees to kill the curculio. It is a sure thing and when economically done it only costs about six to ten cents per tree for the entire season. There is, probably, no better way than the old jarring process. Cherry trees need but little trimming and cultivating, about Fall of Richmond, 1864. Oliver Goldthe same as for plums.

# Sanitary.

TREATMENT OF TYPHOID FEVER.-In an editorial on the recent epidemic of typhoid fever in Paris, the Medical Record, January 6th, 1883, says that Paris epidemic, as regards the therapeutics of typhoid fever, 4s that the disease must be watched, not actively treated. taken, and typhoid fever is looked upon

THE CURE OF SACCHARINE DIA-

is not then, in masking the disease by submission to the severities of a regime exempt from bread, feculents, sugar. etc., that we succeed in curing it, but by tapping the very source of the production of sugar, that is to say, by suppressing the irritation of the bulb. Bromide of potassium, by the elective action of sedation that it exerts on the functions of the bulb, suppresses the effects of such irritation with a rapidity that is often surprising, and, in large and repeated doses, cures the diabetes. TYPHOID FEVER AND MALARIAL WAVES AND THEIR RELATION .- In a recent monthly report, the Secretary of

# Chronologistic.

Interesting Events. Tamarlane died 1405; Marriage of Napoleon I to Maria Louisa, 1810; Victory of Poles over Russians, 1831 Prince Bismarck born, 1815. Charlemagne born, 742; Florida rediscovered by Ponce de Leon, 1512; Thomas Jefferson born, 1743; Nelson's victory over the Danes off Copenhagen, 1801 : Professor S. F. Morse died, 1872. Our Saviour crucified, 33; Washington Irving born, 1783; Bishop Heber died, 1826; smith died, 1774. Resurrection of our Saviour, 33; Plato died, 347 B. C.; John Stow, antiquarian, died, 1605; British museum founded, 1753; Canada discovered, 1499; Robert Raikes, founder of Sunday Schools, died, 1811. Richard I. of England (Cour de Lion) died, 1199. Albrecht Durer, German engraver, died, 1528; Battle of Pittsburg Landing, 1862; Washington chosen first President of the United States, 1789. Lalande. French astronomer, died. 1807 ; Revolution in Brazil, 1831 ; Kaulbach, German with laurel in Rome, 1341; Hudson Bay Company established, 1692; Adalina Patti born, 1843. Lorenzo de Medici

Eugene. great General, died, 1736 ; General Horatio Gates died, 1806. Battle of Ravenna (Gaston de Foix slain), 1512; of England, 1689; First abdication of died, 1740. Napoleon, 1814. Edward Young, poet. died, 1785; Henry Clay born, 1777; Charles Burney (History of Music) died, 1814. Earl of Warwick, the "King Maker," slain in the battle of Barnet, 1471; Handel, musician, died, 1759. George Calvert (Baron Baltimore). founder of Maryland, died, 1632. Battle of Culloden, 1746; Buffon, naturalist, died, 1788 ; Fuseli, painter, died, 1825 German Empire formed, 1871. Benjamin Franklin died, 1790. The infamous Judge Jeffries died, 1689; First newspaper published in America, 1704 Baron Liebig, German chemist, died, 1873. Origin of the term "Protestant," 1529. A few of the Electors and Princes of Germany, joined by the inhabitants of Strasburg, published a "Protestation" against a decree of the Diet, from which they were called "Protestants." From April 19 to May 14, massacre of 2500 whites in St. Domingo, 1804; Lord Byron died, 1824; Dr. Benjamin Rush died, 1745; Battle of Lexington, 1775. Cromwell dissolved Parliament,

Henry VII of England, died, 1509

Royal Society of London founded, 1653

Immanuel Kant, German metaphysician

born, 1724; Wordsworth died, 1850,

William Shakespeare died, 1616; Cer-

vantes, Spanish novelist, died, 1616.

Mary, Queen of Scots, married to the

Crimea. 1653; Londonderry invested by James II, 1689; Dr. Abernethy died, 1831 Napoleon III born, 1808. Alexander the Great died, 323, B. C.; Abelard died 1142; Lord Beaconsfield died, 1881

the French under the title of "Napoleon I," 1804. Anne Boleyn, beheaded. 1536; Boswell, died, 1795; "Dark day" in New England, 1780. Amerigo-Vespucius, sailed from Cadiz on his voyage of discovery, 1457; Cristopher Columbus, died, 1506; Albrecht Durer, born, 1473; North Carolina seceded, 1861. Battle of Cannæla, in which Hannibal defeated the Romans, 216 B. C. Battle of the Granicus by Alexander the Great, 334 B. C. ; Island of Formosa overwhelmed by a hurricane, 1782; Beginning of trial of Aaron Burr, for treason, 1807; Richard Wag, ner, musician, born, 1813. Battle of Ramillies, a great victory of Marlborough, 1706; Paris burnt, 1871. Queen Victoria, born, 1819; Copernicus, died, 1543. William Paley, theologian, died, 1805; Ralph Waldo Emerson, born, 1803. John Calvin, reformer, died, 1864. Dante, Italian poet, born, 1265. Agassiz, born, 1807 ; Sir Humphrey Davy, died, 1829; Earl Russell (Lord John), died, 1878. Constantinople captured by Mohammed II, emperor of the Turks, 1543; General Putnam, died, 1790: Restoration of Charles II, 1660 : Wisconsin admitted as State, 1848; General Winfield Scott died, 1866. Joan of Arc burnt, 1431: Rubens, died, 1492; Lord Bacon died, 1626, Prince painter, died, 1640; Alexander Pope, poet, died, 1744; Voltaire died, 1778; Motley, historian, died, 1877. Anne Boleyn crowned queen of England. William and Mary crowned sovereigns 1533; Frederick William I, of Prussia,

# A Balaklava Hero.

There is now residing in this county. about five miles West of here, a hero of the famous "Charge of the Light Brigade" at the battle of Balaklava, named Matthew Hamilton. He is a coal miner by occupation and is fifty-six years old. At the time of the Crimean war, in 1854, he was only twenty-eight years old, and was a member of troop-B. No. 1004, of the British light dragoons. He came to this country in 1871 and has resided in this country abouten years. He is quite an intelligent man, and loves to converse on the incidents of his army life, especially that part connected with the war of the

Mr. Hamilton gives some important acts connected with the charge. In the attack on Balaklava by the Russians. October 25, they stormed four Turkish redoubts and captured eleven guns, after which they halted, and their column was driven back by the British Highlanders. At that junction Lord Raglan, the British commander, issued an order for the Light Brigade to regain the four redoubts which had been abandoned by the Turks early in the action. In conveying this order to the Earl of Cardigan Captain Nolan, who carried the message, made a mistake and gave orders for the Light Brigade to cut its way through the whole Russian army. Mr. Hamilton avers that when the order was given he, with many others, was so amazed that he scarcely knew what he was about, and without even time for second sober thought the whole column was hurled into the terrible carnage so graphically described by Tennyson. Inthis charge Mr. Hamilton was shot through the side and had his arm shat tered and broken near the elbow, while the horse he rode was shot through the neck, and dropped dead after bearing his rider safely from the dreadful field of carnage. Mr. Hamilton served in the-British army fifteen years, and to-day he bears the scars received in that famous charge of the Light Brigade.

twine for tying wool will be required.

GREEN PEAS .- To raise green peas in perfection requires good garden land : a dry, sandy loam will bring them .earliest, but in time of draught, the quality of the crop upon such land will be very inferior ; still, since earlingss is very desirable, it usually pays to risk a small piece of early peas upon poor, sandy, soil, and to depend upon better land for the later crop. Peas being perfectly hardy, may be sown as soon as the land will work mellow ; sometimes this can be done in March. The manure for peas is usually spread along the furrow from the cart, and covered lightly with the hoe, before sowing the seed, which is then covered with a rake or hoe about half an inch deep. The manure should be as fine as it is possible to get it. The pea called Champion of England is also the champion of America, as a late pea for the private garden. It is the sweetest and best of all; but it makes long are always happier for having been vines, and does best when staked with happy ; so that if you make them happy brush, which of course cannot be done now, you make them happy twenty on a large scale profitably .- New Eng- years hence from the memory of it. A land Farmer. na baa ti

Don't begin to work the soil until tional indulgence, under fond and wise there is some warmth in it. and will

soon. Let them be protected until we have a bright sunny day.

The weeds found on our farms come largely from the grass seeds with which weed seeds are mixed. The microscope not only reveals to the eye the worthless seeds of the grasses, but by careful use it detects the weed seeds. Bad seeds are a source of great injury to the farmer and the subject should not be neglected.

Dr. Sturtevant, director of the New York agricultural experiment at Geneva, says : "That broadcast fertilizing is a better way for corn than hill fertilizing seems in accordance with my gwn observations. I have known many farmers to pass from hill manuring to broadcast manuring for corn, but I have never known a farmer to change his practice from broadcast manuring, after once having given it a fair trial."

The quality of milk is impaired by allowing cows to drink foul water and o eat improper food. All know the bad effects of turnips in winter, and of wild onions and other weeds; cropped while at pasture, in summer ; but now comes up something which has not been all probably be badly "broken up" in the and leave on the ground or remove to lets fell into the drawer this extraordinthought of as injurious, heretofore. operation .- Petaluma Argus. This is from grass and 'ay grown on toned land, or such as is fertilized by do not like it any better for fattening directions."

Happy Hours.

An accurate observer says : Mankind childhood passed with a mixture of raparents, diffuses over the whole life a Don't uncover the strawberries too feeling of calm pleasure; and in extreme old age is the very last remembrance which time can erase from the mind of

man. No enjoyment, however inconsiderable, is confined to the present moment. A man is the happier for life for having once made an agreeable tour, or lived any length of time with pleasant people, or lived any considerable nterval of innocent pleasure, which contributes to render old men so, inattentive to the scenes before them, and carries them back to a world that is passed, and to seenes which are never to bing you can give them will avail little. be renewed again .- Dickens.

### - Lindahard Brander Telegraphing in Japan and China is no slouch of a job. There are 44,000 characters or hieroglyphics in the language, and no telegraphic alphabet is equal to the task of representing them. A system has been devised by which only 6900 characters, divided into 214 classes,

need be used, and by the aid of numbers they can be transmitted by wire. But imagine a lightning operator in Ameri ca trying to send several thousand words of a newspaper "special" by such a method as that ! The operator, the message and the telegraph editor would

Postman : "Say, sis, where's Mrs, may be burned. sewage. Distillery slops, perhaps, is the Malley O'Dearmont ?" Sis; "I d' nor. worst of all food for milch cows, and we She died last week and didn't leave any ming, except dwarfs, which the general will not allow a daughter of mine to b

If any traces of them are found or any dead bark is seen, cut away with the knife. Dig out the worms or punch them to death. As the blossoms are about through falling, place some barrels of water in a wagon in which is mixed some London purple or Paris green, the same as for potato beetles-a level tablespoonful to a pail of water. with a force pump or large syringe shower the trees all over. Repeat the operation after every hard rain or wind, perhaps two or three times, being sure that the apples are not large enough to hang down with cavities about the stems. The poison is to kill the young apple worm.

the trees by no means prop them up, but shown by the increased prevalence, pick off many of the smallest specimens tendency to unusual frequency and of fruit. It is not so tedious a process severity, and the increase each year of to thin fruit as many imagine till they deaths from this cause. As the decrease try the experiment ; and it pays, by se- in the frequency of typhoid preceded curing better fruit and husbanding the the malarial wave, so its increase preresources of the tree for furure crops. cedes the entire disappearance of mala-A very heavy crop generally weakens ria, or at least gives us some ground for the tree; the apples are small during hope that such a disappearance will this crop and for years afterwards. The tree is checked in growth and comes to a premature death.

So much for the top, now for the root of the matter. Very likely the trees med or untrimmed. Many trees are has ceased. planted in soil which is too black and loamy, on soil which is far better for a pasture or meadow than for trees. A heavy pruning and all the soap and scrub-It is most likely now too late to make good trees by drainage, if they ever suffered on this account-and many to the library, and after wine the gentlehave suffered, even where little suspected. Such an orchard may be left a door of the library the officer exclaimed, few years longer till the young orchard "How beautiful !" Mr. Edgeworth on the hill or well drained plateau of strong wheat land comes into bearing, then convert the old trees into firewood. If they are on suitable well-drained, soil and have borne or have not borne fruit, before the bright grate, with her arms it will be well to top-dress the land resting upon the mantelpiece. Mr. with wood ashes, superphosphate, or Edgeworth walked acrossed the room

Pear trees need but very tittle trim- Turning to his guests, he remarked, "I farmer should seldom attempt to raise, | vain."

the State Board of Health of Connecti cut gives statistics showing an increase in typhoid fever, and comments upon Cromwell proclaimed Protector, 1653 its relation to malaria as follows : Missouri admitted as a State, 1821 "This return of typhoid fever to

prominence, and its steady increase in frequency for the last three years, is apparently a part of an extensive and comprehensive movement. As the epidemic of malaria was ushered in by a decrease, and in places almost, if not quite, a total disappearance of typhoid, this return of typhoid fever to its former importance and relative frequency is an intimation of the decrease and disappearance of malaria. The tendency toward typhoid fever com-If the apples are very thick on any of steadily grown stronger each year, as take place. This disappearance of epi-

demics of malarial fever on a large have not done well for some years and malarial fever of 1807 and 1824, which theowner is puzzled to know what to are stated to have extended over all do with them. If the soil and cultivas Europe, were followed by typhoid tion is correct and the trees are of suita- lever." The writer thinks that the tle of Tewksbury, 1481. Napoleon the ble varieties, they will produce a good spread of malarial fevers over Connec-

A Crazy Father.

Charlotte was a beautiful girl, with luxuriant golden hair. The rector of the parish and an officer of the British army were dining at Edgeworthstown House. After dinner the ladies repaired men followed. As they entered the said, haughtily and quickly, "What do you admire, sir ?" He replied, "Your daughter's magnificent hair." Charlotte was standing in a becoming attitude composted. Pile up the limbs as soon held her head back and cut her hair as they are cut off, chop them up short close to the head. As the golden ringpiles away from the trees, where they ary father said, "Charlotte, what do you say ?" "Thank you, father."

Dauphin, afterwards Francis II of France, 1558. Tasso, poet, died, 1595; Oliver Cromwell born, 1599; Cowper died, 1800. Ferdinand Magellan, navigator, killed, 1521; Uhland, German menced several years ago, and has poet, born, 1787. Sir William Jones, orientalist, died, 1794 ; U. S. Grant born. 1822; Queen Victoria made Empress of India, 1876. James Monroe, ex-president of the United States, born, 1758; Ludwig Tieck, German poet, died, 1853. Rufus King, American orator, died, 1827. Lucan, Roman poet, died, 66; Chevalier Bayard buried, 1524; Edict of Nantes approved by Henry IV of France, 1598 Battle of Fontenoy, 1745; Washington inaugurated President of the United States, 1789. Union of England and scale has often been followed by an un- Scotland, 1707 ; Dryden, the poet, died, usual prevalence of typhoid fever or an 1700; English slave trade abolished, extensive epidemic. The epidemics of 1807. Leonardo da Vinci, painter, died, 1519; Catharine II, of Russia, born, 1729; Battle of Chancellorsville, 1863. Isle of Jamaica discovered, 1494. Batgreat, died, 1821; Battle of Prague, deal of fine fruit whether they are trim- ticut, Massachusetts and Rhode Island 1757; Baron Humboldt, died, 1859; Salmon P. Chase, died, 1873; Pacific Railroad completed, 1879. Joan of Arcs heading the French forces, compelled the English to raise the siege of Orleans, 1429; Robert Morris, died, 1806; Napoleon landed at Elba, 1814; Formation of the American Bible Society, 1816; Battle of Palo Alto, Mexico, 1846. Schiller, German poet, died, 1805. Louis XV., of France, died\_1774; Second Continental Congress (1775; Ticonderoga captured by Ethan Allen, 1775; "Stonewall" Jackson, died 1863. Earl of Chatham, died, 1778; inch, but it is as stiff as sheet-iron. On Minnesota admitted as a State, 1858, Earl of Strafford, beheaded, 1641. King ing for the telescope, and over this is John, of England, resigned his kingdom a shutter (likewise of paper, but stiffento the Pope's legate at Dover, 1213; ed with wood lining) which slides Jamestown colonized, 1607. Henry IV of France, assassinated, 1610; Lewis whole dome is so light that the hand barnyard manure, composted or not to the book-shelves, opened a drawer, XIII of France, died, 1643. Mary Queen of Scots, married to Bothwell, 1567; Cuvier, died, 1832; Daniel O'Connoll, died, 1847. Rueckert, German poet, born, 1788; Vendome column of Russia, born, 1727; John Jay, died, ing is rapidly approaching completion, 1820. Napoleon declared Emperor of and the dome is already in place."

### The Fourth Paper Dome in the World.

The special feature of the new observatory at Columbia College will be a paper dome. "This will be the fourth paper dome in the world," said Professor Rees. "They have all been made by Waters & Sons, of Troy, N. Y., the manufacturers of paper boats, and are all in this country. The first one made is at the Troy Polytechnic Institute, the second at West Point and the third at Beloit College. While that at West-Point is the largest, ours is the best in construction and arrangement. The method used in the manufacture of the paper is kept a secret, the makers using a private, patented process. The dome is made in sections-semi-lunes as they are technically called. There are twenty-four of these sections. They are bent over toward the inside at the edges and bolted to ribs of wood. The thickness of the shell is only 332 of an one side of the dome is the oblong openaround on the outside of the dome. The can turn it. The inside diameter is twenty feet and the height is eleven feet. The floor of the observatory is 100 feet above the ground : we were obliged to build it so high because of in Paris, destroyed, 1871. Catharine I the tall buildings around it. The build-