

AGRICULTURAL PATENTS OF THE YEAR.

There is no object of more interest in Washington than the United States Patent Office, the repository of all the silent but eloquent memorials of the genius and efforts of our inventors, and there is no department of this vast institution more pleasing to the general visitor than that devoted to agriculture. The models are generally so simple in structure as to suggest their purpose without reflection or conjecture, as many of the more complicated machines do not. The hall containing the agricultural models is about two hundred and seventy feet long, and is provided with sixty cases (exclusive of those in the galleries), each case being about twenty-five feet long by five feet wide, and provided with four shelves, upon which the models are arranged as closely as they can be made to stand. Of these sixty cases, thirty-one are devoted to agricultural models, systematically arranged in classes, each class being subdivided into years, and every model bearing a card having the subject of invention, the name and residence of the inventor, and the date of the patent on it.

During the year 1869, nineteen hundred patents were issued, in this department, which may be classified as follows:

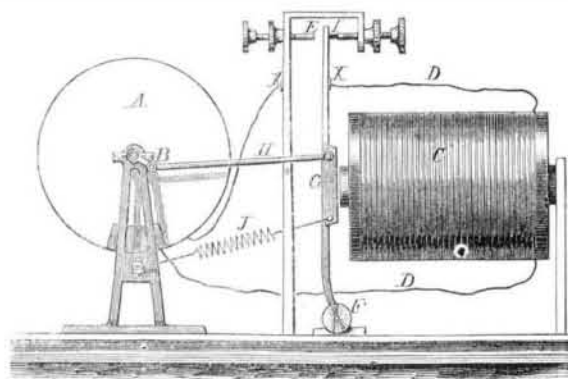
Bee hives, houses, traps, etc.....	62
Butter workers, tubs, etc.....	20
Cattle ties, slaughterers, catchers, etc., chicken coops, nests, etc.....	35
Churns and churning.....	130
Corn shellers, huskers, etc.....	40
Cotton gins, pickers, etc.....	30
Cultivators.....	150
Diggers and spaders.....	30
Drills.....	30
Egg carriers, detectors, etc.....	8
Fertilizers.....	6
Forks—hay, manure, pitch, etc.....	100
Fruit boxes, crates, pickers, etc.....	20
Garden implements.....	5
Grain bins, granaries, etc.....	10
Grain cleaners.....	20
Harrows, drags, pulverizers, etc.....	80
Harvesters and attachments.....	195
Hay spreaders.....	25
Hay tedders.....	10
Hedge trimmers, setters, etc.....	6
Hoes.....	25
Markers.....	12
Milk coolers, safes, pails, and dairy apparatus.....	45
Mowing and reaping machines.....	30
Planters.....	150
Plows and attachments.....	252
Pruning.....	15
Racks.....	6
Rakes.....	90
Rollers.....	15
Sap spiles.....	5
Scythes.....	5
Seeding and sowing machines.....	80
Separators and smut machines.....	50
Stalk cutters.....	7
Straw, hay, and fodder cutters.....	30
Thrashing machines.....	35
Yokes.....	15
Miscellaneous.....	18

It will be observed that the plow takes front rank in numbers, as it does in point of importance. It is, of course, understood that a patent is not granted on every application as all inventions are not novel, and it is safe to say that applications for patents for improvements on the plow average one for each day. Notwithstanding this rapid increase, there is, apparently, as much room for improvement as ever. One of the examiners states that when he first entered the Patent Office, he considered the field of invention nearly closed; so much had been done that he could see little room for further improvements; but after an experience of nearly seven years, he concludes that there is no limit to inventive genius. Though a thousand improvements have been patented, the field is still open; and there are as many applications for improvements now as when there had been but five hundred patents issued.—*Commissioner Capron's Report.*

PERPETUAL MOTION.

NUMBER X.

Fig. 26 is an attempt to secure a perpetual motion by the application of electricity. It is the invention of a citizen of Kansas. In his communication inclosing the drawing, he says:



"You will observe friction (the old enemy) is an ally in this. If a magnet of a certain power will not move the electric plate, the power could be increased without perceptible loss of tension, by decreasing the resistance which the magnet and conductor offer."

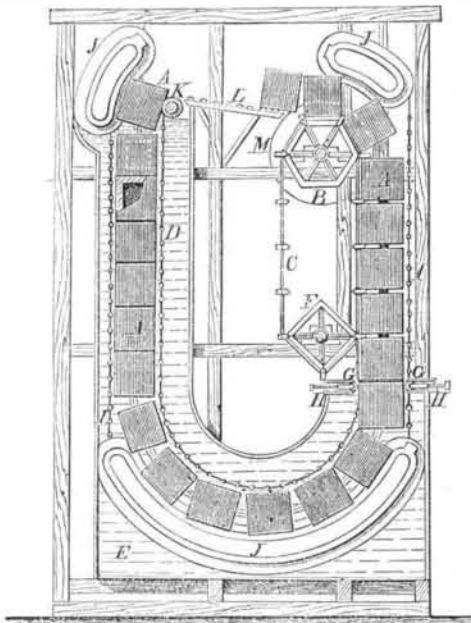
In the engraving, A represents a frictional electrical machine; B, a crank; C, an electro magnet; D, wire conductors; F, a trunnion; G, an armature; E, a circuit closer; H, a pitman; I, an insulating substance, and J, a spiral spring.

The device is expected to operate as follows: The frictional electrical machine is started, which magnetizes the temporary magnet and draws the armature towards it. This breaks the circuit at the point, I, E, which demagnetizes the temporary magnet and allows the spring, J, to again close the circuit. By this means a continued motion is expected to be kept up.

To those not familiar with the science of molecular physics, this device may appear very plausible; a little reading, however, upon the subject of the correlation of forces, will serve to show its utter fallacy.

Fig. 27 is the invention of Jean Clunet, of Lyons, France, patented in England, 1869, under the name of "A New and Improved Motive power." It is thus described.

FIG. 27.



The invention relates to a new and improved motive power operating without noise and without expense. It consists in giving a rotary motion to a wheel, which is destined to transfer, by the ordinary means, the power obtained by the employment of any even, smooth blocks of stone, petrified mortar, iron, cast or wrought, or other heavy materials, in the form of cubes preferred, and of which the number and volume are governed by the amount of power desired, and causing them to descend in the ordinary atmospheric air, but to ascend in a liquid whose density is equal to their density, by which means their weight is annulled. For this purpose these blocks, when descending, are hung to hooks fixed to an endless chain turning upon the wheel receiving the motive power, which is of a shape of a hexagon, and placed on the top of a suitable framework, and upon another wheel of the shape of a square, which is placed at the bottom of said framework, and partially in a receptacle or tank of water, or any other liquid. When these blocks have arrived at the lower portion of their course, they detach themselves from the hooks on which hitherto they hung attached to the chain, which latter continues its ascending and rotary motion, and the said blocks descend and re-ascend within the tank, confined to their place and guided by an endless band and conducting wires stretched from supports for that purpose fixed on the top and bottom of the framework. They now, being thus guided, and following one upon another, find their way into another species of tank, placed vertically, likewise filled with a liquid similar to that in the first mentioned tank, and when arrived at the top of this second tank they tilt and slide along upon a horizontal shelf of rollers until they reach the hexagon-shaped wheel and the endless chain, when they recommence their descent. In order to prevent the liquid from running or descending from the second tank into the first, the blocks enter from one tank to the other between rollers and grooved pulleys pressed against the blocks by springs so as to shut off all way to the water. The detaching of the blocks from the endless chain takes place of itself, so to speak, from the position they find themselves in, in consequence of the rotary movement and of the turning over the said chain upon the lower wheel in the shape of a square. The endless band receives a continuous descending and rising motion from the weight of the blocks, which give every motion that the apparatus possesses, and which motion would be perpetual, if, upon the axle of the hexagon-shaped wheel transmitting the force obtained to the machinery by means of a driving pulley keyed to one of its ends, there were not keyed to the other end a break wheel with a hand crank, by means of which the movement may be stopped or modified. Instead of two receptacles it would perhaps often be better to have but one, the rollers and grooved pulleys already alluded to being placed at the entrance of the single tank instead of the second, the blocks acting in the same manner.

The engraving is a side section, in elevation, of the whole apparatus.

A represents the blocks; B is the hexagon-shaped wheel; C is the endless chain, which remains attached to the said wheel by means of its pointed hooks, which successively enter similar recesses made in the circumference of the wheel, the other end of said hooks being square, serving to keep the blocks in their place while descending in conjunction

with the conducting wires, D, placed two in front and two behind each block, and one at each side; E is the receptacle; F is the square wheel from which the chain, C, at the bottom of its course is detached to re-ascend round the wheel, B; G, rollers, of which there are four, made of india rubber or other elastic material, placed at the entrance of the receptacle, E; and H is the india rubber or other suitable angle pieces, also placed at the entrance, between which rollers, G, and angle pieces, H, pass with slight friction the said blocks, after being disengaged from the chain, C. These blocks, A, angle pieces, H, and rollers, G, being in close contact, form a permanent stoppage, so that the water cannot issue, and said blocks, when in the receptacle, are placed in the middle of the same, where they are kept in equilibrium by the water, and are pushed and moved forward by the blocks which descend after them. I is the endless band, resting on supports, J, fixed to the inside of the receptacle, supporting the blocks and moving with them. The blocks, when in the vertical part of the receptacle, are conducted by four wires, one on each of their four sides. K is a roller upon which tilt the blocks, guided by the endless band when on the top of the receptacle to leave the same; L, friction rollers, on which fall and roll the blocks after having tilted, in order to reach the hexagon wheel, B; M, M, are the two pulleys on each side of the hexagon-shaped wheel, for applying the break and for transmitting the power obtained to other machinery. The equality in the density of the liquid and the blocks is obtained by hollowing the blocks so that they may easily rise to the top of the receptacle when therein. The desired result is obtained by the use of any other liquid, the volume of the blocks being proportionate to their density; also the weight of the blocks may be more or less than that of the liquid, but equality in weight is preferable.

Correspondence.

The Editors are not responsible for the opinions expressed by their Correspondents.

Ingrowing Toe Nails.

MESSRS. EDITORS:—The trouble and pain from this cause can be immediately and permanently relieved, without pain, in the following simple manner: Take a file, some four inches in length, bastard cut, flat on one side and round on the other, new and sharp. File down thin all the exposed part of the nail, till it is soft and pliable. This will immediately relieve the part pressing into the flesh, which need not be cut or extracted. The filing is not in the least painful, as the file will not take hold of the skin or flesh. In the course of several months, the nail will grow out thick again, when the filing should be repeated. The edges of the nail will never grow into the flesh so long as the top of the nail is soft and pliable; and there is nothing so simple, convenient, safe, and painless for keeping it so as a file.

Philadelphia, Pa.

D. S.

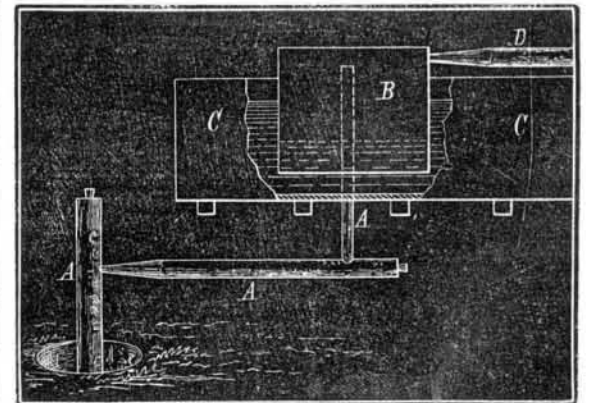
American Gas Wells.

MESSRS. EDITORS:—I have seen no account in any paper of one of the oldest and most remarkable oil wells there is in the United States, and will therefore write a short notice of it for the SCIENTIFIC AMERICAN. It was sunk in the winter of 1828-9, by Col. Rufus Stone, opposite McConnellsville, Morgan county, Ohio. The boring was for salt water, and when he found it he obtained all he needed to make salt, except "elbow, and a pinch of coal;" for, in drilling through a stratum of rock or clay, he not only found salt water, but hydrogen gas under pressure sufficient to lift the salt water to the surface. The well is, we believe, some three hundred feet deep, and has never ceased to furnish gas enough to lift water and evaporate it during the forty-two years of its existence.

The brine is lifted at irregular intervals into a large tank, whence it is drawn as needed. At times, it will rush through the pipes for a minute or more, but usually only flows for a few seconds at a time.

In the accompanying sketch, A A are the pipes, terminating at the top of the gas chamber, B. The brine falls to the bottom of the chamber, filling the tank, C, while the gas is carried away by the pipe, D, to the furnace, where a small coal fire is kept burning, to relight the gas in case the supply should cease during a long flow of water from the well.

It is seventeen years since I examined it, and the method of using the gas may have been improved since. The gas burns with a pale blue flame, and imparts no disagreeable taste to the salt.



Petroleum is found in the neighborhood in quantity, floating upon springs and the water of salt wells. It used to be called "rock oil," and was used for sprains, chapped hands etc. But no petroleum, or disagreeable smell of it, annoys the owner of the "works" described. J. B. GAGE
36 W. 16th st., New York city.

[In connection with the above statement, we will add the