

RECENT DECISIONS RELATING TO PATENTS.

United States Circuit Court.—District of Minnesota.
PATENT FOR CORRUGATED IRON FOR BUILDINGS.—BELT
vs. CRITTENDEN.

The complainant is the assignee of the letters patent granted to F. E. Perkins, May 30, 1876, for improvement in metal coverings for buildings.

The claim is:

A metallic covering for wooden structures, composed of the metal sheets, B, applied to the surface of the structure in the manner shown, whereby an air space is left between the metal sheets and the wall or structure at all points, except at the edges of the sheets, substantially as and for the purpose set forth.

Nelson, J.:

The defendant's witnesses, upon the defense of novelty, refer to several forms of corrugated iron previously used, and all would fill the specification and claim made by the complainant. The fact that the iron at the point of contact with the wood is double in thickness, or that the nail holes at the joints may be made elongated in order not to interfere with the nails in case of expansion or contraction lengthwise of the corrugations, will not sustain the patent; nor will his manner of forming the joints connecting the several sections of sheathing aid him. There is no novelty in the latter.

The bill is dismissed, with costs.

United States Circuit Court.—Northern District of
New York.**PATENT MAY RAKE.—WISNER vs. GRANT et al.**

Wallace, J.:

1. Claims 1, 2, and 4 of reissued letters patent granted to William H. Field, November 5, 1878, for an improvement in horse hay rakes, held to be substantially anticipated by the patent granted H. W. Sabin, December 3, 1850.

2. Where the office of a reissue was to secure a broad claim the complainant in a suit upon such claim must be held thereto, even though the real invention is not secured thereby.

United States Circuit Court.—Southern District of
New York.**MCDONALD vs. SIDENBERG et al.**

The construction given by the court in the case of McDonald vs. Shepherd to the patent granted to Helen M. McDonald, September 29, 1874, for an improvement in skirt protectors, approved.

Helen M. McDonald for herself. Mr. E. N. Dickerson for the defendants.

Blatchford, J.:

The defendant's article in the present case does not have a fluted or plaited border, but it is like the plaintiff's article in all other respects. I concur with Judge Lowell in not regarding the fluted or plaited border as essential, in view of the state of the art prior to the plaintiff's invention in December, 1861. The affidavits presented by the defendant in the present case do not show any article anticipating that date like the plaintiff's invention, whether with or without a fluted or plaited border. T. D. Day gives no date earlier than 1865. The article of 1858, which J. Morrison speaks of, was only a facing. His entire affidavit is too vague and general. H. Douglass, as to a skirt protector of enameled cloth over a facing, gives, as a date, "as early as 1861." This is not sufficient. R. Hood goes back only to 1865.

An injunction is granted.

New Method of Precipitating Rain Falls.

Among the recent patents is one taken out by Daniel Ruggles, of Fredericksburg, Va., for what he designates as a new and useful mode of producing rain or precipitating rain falls from rain clouds, for the purpose of sustaining vegetation and for protection against drought and for sanitary purposes.

The invention consists in sending balloons into the cloud realms, said balloons carrying torpedoes and cartridges charged with explosives, and there to explode or detonate them by electric force.

"My design," he says, "is to employ every kind of explosive force at an elevation in the cloud region of the atmosphere, in order to condense rain clouds by concussive force or the power of explosion within such region, thereby precipitating rain to sustain vegetation, prevent drought, and also purify and renovate the atmosphere during periods of pestilence and epidemics.

"I contemplate the employment of nitro-glycerine, dynamite, chlorates of nitrogen, gun cotton, gunpowder, fulminates, and other explosives, and to use the magneto-electric telegraph on the surface of the ground and the phono-telegraph in the cloud realm to direct action in cases where a regular balloon not charged with explosives is occupied by an aeronaut to reconnoiter the cloud realm, to trail torpedoes and cartridges, or to throw them in parachutes, and to explode or detonate them either from the balloon occupied by the aeronaut or from the ground.

"Instead of a single balloon provided with explosives—say ten small torpedoes or cartridges, each charged with a half pound of dynamite, and arranged for simultaneous magneto-electric explosion—I propose in some cases the employment of small balloons in groups in the cloud region, each provided with explosives and arranged for simultaneous explosion or detonation by either electric or mechanical force; and I contemplate not only to precipitate rain fall, but also

to check its fall in overabundance in a given locality by causing the rain clouds to discharge rain before the given locality has been reached by such clouds.

"My invention is based on discoveries in meteorological science, and that electrical force sways and controls the atmospheric realm and governs the movements of the rain clouds, bursting into thunderstorms, dispensing rain and hail, and into cyclones and tornadoes illuminated by magneto-electric forces as prime attributes of matter.

"I propose to employ the magneto-electric engine to send explosives into the cloud realm, and compressed air and steam into the atmosphere whenever found expedient, each through its appropriate medium of metallic wire, textile fiber, cordage, and elastic tubes."

AGRICULTURAL INVENTIONS.

In cutting grass or grain, more especially if it be heavy, much trouble, annoyance, labor, delay, and expense are entailed by the obstruction offered by the grass or grain previously cut and lying in the previous swath, since it tends to clog the cutter, and thus renders its operation difficult or imperfect, or arrests it altogether. By moving the grass or grain thus cut away from the standing grass or grain the machine has a clear track, so that the cutter bar can operate with freedom and without danger of becoming clogged. Mr. William Prindle, of Santa Clara, Cal., has patented a track clearer adapted to perform this function; and it is embodied in a certain construction and combination of tubes, rods, and other parts, forming an adjustable skeleton frame.

Elizabeth Dark, Davis Collins, and George W. Nelson, of Quinman, Mo., have patented a combined harrow, marker, and cultivator, so constructed as to harrow the ground and at the same time mark it for planting, and also to cultivate the plants. It is simple, convenient, and not liable to get out of order.

Mr. Edward M. Hand, of Fredericksburg, Iowa, has patented a device for collecting manure from various points and conveying it to a compost heap or a wagon or other place of deposit. It consists in a novel rake and the combination therewith of two hinged curved arms connected to a draught bar, and two pivoted straight arms serving as handles, whereby provision is made for adjusting the rake to different positions and for tilting it to discharge the load.

An improved rotary plow has been patented by Mr. Thomas J. Tally, of Rockport, Texas. This plow is designed for plowing land, preparing the land to receive the seed, and cultivating the plants. It is convenient, effective, and not liable to get out of order.

A fence that will effectually prevent cattle, fowls, dogs, etc., from passing into the field it surrounds, and which will also be strong and durable, has been patented by Mr. John Vance, of Forest, Ontario, Canada.

Ancient American Giants.

The Rev. Stephen Bowers notes, in the *Kansas City Review of Science*, the opening of an interesting mound in Brush Creek Township, Ohio. The mound was opened by the Historical Society of the township, under the immediate supervision of Dr. J. F. Everhart, of Zanesville. It measured sixty-four by thirty-five feet at the summit, gradually sloping in every direction, and was eight feet in height. There was found in it a sort of clay coffin including the skeleton of a woman measuring eight feet in length. Within this coffin was found also the skeleton of a child about three and a half feet in length, and an image that crumbled when exposed to the atmosphere. In another grave was found the skeleton of a man and woman, the former measuring nine and the latter eight feet in length. In a third grave occurred two other skeletons, male and female, measuring respectively nine feet four inches and eight feet. Seven other skeletons were found in the mound, the smallest of which measured eight feet, while others reached the enormous length of ten feet. They were buried singly, or each in separate graves. Resting against one of the coffins was an engraved stone tablet (now in Cincinnati), from the characters on which Dr. Everhart and Mr. Bowers are led to conclude that this giant race were sun worshipers.

Spiral Energy.

At a recent meeting of the London Physical Society, Dr. Shettle read a paper "On the Influence of Solar Radiation on the Earth's Rotation." The fact established by Dr. Shettle, that the magnetic energy of a bar magnet acts along spiral lines, has led him to surmise that the energy emanating from the sun and impinging on the earth on the zone of the ecliptic traverses the earth in a spiral path, and finally emerges at the magnetic poles. The spiral of energy is "right-handed" at one pole and "left-handed" at the other, like the magnetic force in a magnet, and the electric discharge in Crookes' vacuum tubes. Like to precession and nutation these spiral paths are constantly changing and producing magnetic variations. He therefore infers that the magnetic poles will complete a cycle corresponding to the period of precession. Dr. Shettle thinks that bodies exhibit magnetic properties in proportion as they change the direction of the energy traversing them, and throw it into the spiral form. Terrestrial magnetism would be due to the solar radiance. On this hypothesis gravity would also be produced; so, likewise, would the earth's rotation (by a kind of "magnetic whirl"), electricity, tornadoes, cyclones, water-spouts, and whirlwinds. Moreover, this "spiral energy" would seem to operate throughout the whole universe.

THE GEOLOGICAL HISTORY OF THE CATSKILLS.

In an article on the Physical Structure and Hypsometry of the Catskill Mountains, in the current number of the *American Journal of Science and Arts*, Professor Guyot states that the masses of rocks forming the Catskill Mountains were deposited in a gulf of the Devonian Sea comprised between the Adirondack plateau and the Green Mountain range, including the low silurian ridges between the Hudson and the foot of the Catskills, all of which were probably emerged when the Devonian age began. Most of New England was also above the level of the ocean. The thickness of the sediments shows that the bottom of this gulf gradually subsided during that time to a depth of some 5,000 feet, constantly making room for new deposits. The presence of the gray conglomerate capping the highest hills proves that the deposition of these sediments continued into the subcarboniferous period, after which they were upheaved above the level of the ocean before the deposit of the coal measures, and have remained emerged ever since. The slight southward dip indicates that during the Devonian age a general and gradual rise of the continent took place from the north, which raised successively above water parts of the lower and upper silurian in the Helderberg and Oriskany sandstone, which were laid dry when the Catskill sandstones and shales were still depositing. The most notable upheaval of the Catskill region probably took place at the time of the great revolution which raised the main Appalachian system; doubled the size of the early continent, and closed the carboniferous age. But the peculiar situation which sheltered it from the immediate effect of the force which was in play, the lateral pressure arising from the sinking of the bed of the Atlantic, modified the hypsometric form of that portion of the western plateaus. When this great Appalachian upheaval began, the domain of the Catskills was secluded from the ocean by large tracts of the pre-existing lands; the Adirondack plateau on the north, New England, and the Green Mountain ranges on the east, which, though affected themselves in a measure, served as a barrier against a strong action of the upheaving force from those quarters on the region beyond.

Farther south, however, no obstacle intervening, the force was free to display its full power; and to this cause Professor Guyot is inclined to attribute not only the folding of the numerous Appalachian chains, but also the remarkable bend westward of the whole system, in Pennsylvania, as well as the significant fact that it is in the prolongation of the axis of that convexity that the western plateaus beyond swell to their greatest average height in the region of the sources of the Susquehanna, Alleghany, and Genesee rivers. To this pushing northwest and northward of the land, and its reflex action northeastward, the swelling of the plateaus of western New York may be in great measure attributed. The Catskills would thus have been subjected to a pushing action, from three or four opposite directions, by the rising lands—from the Adirondack plateau on the north, from the Green Mountains on the east, and from the rising Appalachians on the southeast and south; and hence, perhaps, their superior elevation above all the surrounding lands. On the other hand, it might be supposed that the covering of the hard subcarboniferous conglomerate, which must have been general in the Catskills, protecting the underlying strata of the Catskill formation against denudation, prevented their being swept away, as in the surrounding region, and thus preserved, in a great measure, their primitive elevation. But the known facts hardly warrant more than a surmise. The Hudson River valley during the Champlain Epoch of the Quaternary age was an arm of the sea. The last end of the Catskills was then a series of high marine bluffs, worn out by the action of the waves, and this would explain the abruptness of their eastern termination.

Eighty Square Miles of Turtles.

The *Galveston News*, of June 29, reports that between Sabine and Calcasieu, in the Gulf of Mexico, June 22, the schooner James Andrews encountered a vast multitude of green turtles, many of them very large, and all of them on their backs. Captain J. B. Rodgers, owner of the schooner, states that the schooner was lying on and off, and from observation it was estimated that the water covered by these turtles formed an area of eight miles in width and ten miles in length. They were all sizes, and not one being seen in a natural position. The water was literally covered with them. During the passage among the turtles, Spanish mackerel were leaping high in the air in every direction, as if determined to escape from the sea, giving evidence that either the water underneath was in a dreadful commotion or the sea monsters had come down on them from some strange sea. Captain Rodgers is anxious to have nautical men explain these odd phenomena of the turtles on their backs and the excitement among the mackerel. During his nautical career he never saw anything similar to it, nor did he ever before lay eyes on as many turtles and Spanish mackerel.

Electricity Affected by a Magnet.

The phenomenon lately discovered by Hall of the action of a magnet in altering the path of a current of electricity in the conductor which carries it, has formed the starting point for two investigations, which have appeared separately in the *Wiener Anzeiger*, by Boltzmann and Von Ettingshausen respectively, in which they point out that this discovery may be applied to determine the absolute velocity of electricity in a conductor.