DECISIONS OF THE UNITED STATES COURTS.

Supreme Court of the United States.

A TRADE MARK CASE.

THE LIGGETT & MYERS TOBACCO COMPANY *vs.* FINZER.

Decided November 5, 1888.

Appeal from the Circuit Court of the United States for the District of Kentucky.

The Liggett & Myers Tobacco Company, a corporation created under the laws of Missouri, manufactures plug tobacco at St. Louis, in that State. This tobacco is put up for sale, marked with a star made of tin, having five points, and a round hole in the center, and attached to the plug by prongs at its back. The bill alleges that the complainant has for many years been extensively engaged in manufacturing this plug tobacco and in selling the same in large quantities in St. Louis, Louisville, and throughout the United States, and that every plug has been marked with such a star; that from the care taken in its manufacture the tobacco has acquired a great reputation, and large quantities are constantly required to supply the regular demand; that by reason of the distinguishing mark of the star upon the plugs it has become known to the trade and the public as "star plug tobacco;" that the complainant was the original manufacturer of this tobacco with the design of a star affixed to the plugs, and that the defendant, knowing all this, is manufacturing and selling at Louisville, Kentucky, plug tobacco to which is affixed a round piece of gilded paper having on it a red star, under which the word "Light" is printed, and that this mark is calculated to mislead the trade and public and induce them to purchase tobacco from the defendant as star tobacco of the complainant, to his manifest injury, all of which is contrary to equity and good conscience. He therefore prays that the defendant may be enjoined from using that star on any plug tobacco manufactured by him.

The defendant admits these several allegations, except the one asserting that the complainant was the original manufacturer of plug tobacco with a star attached to the plug and the one asserting that the star used by him is calculated to mislead the trade and public to purchase the tobacco manufactured by him for the tobacco manufactured by the complainant. Upon the first of these two points the testimony establishes the fact that the complainant was the first person to use a star made of tin and fastened upon plug tobacco as described above, but that he was not the first person to use the design of a star upon plug tobacco. The priority of use, therefore, by the complainant extended only to the tin star, and not to the design of a star generally. Upon the second of the two points there is even less ground to sustain the position of the complainant. The two stars, the one used by the complainant and the one used by the defendant, are so different in form and surroundings that it would not be possible for any person not afflicted with color blindness to mistake the one for the other. They differ in size and color. The star used by the complainant on its manufactured goods is only a little over half an inch in diameter, with a hole in the center. The mark used by the defendant consists of a round paper label over three-fourths of an inch in diameter, with a red star and the word "Trade" on one side and the work "Mark" on the other, in gilded letters on a red background, and having beneath the star the word "Light," thus forming by the figure and the letters the word "Starlight." One star has the silvery appearance of tin foil, the other has the glare of a red and yellow gilded background. The judgment of the eye upon the two is more satisfactory than evidence from any other source as to the possibility of parties being misled so as to take one tobacco for the other, and this judgment is against any such possibility.

Seeing in such case is believing, existing differences being at once perceived and remaining on the mind of the observer. There is no evidence that any one was ever misled by the alleged resemblance between the two designs. But, in addition to the want of resemblance in the stars, the plugs to which they are respectively attached are of different size and weight. And it appears, also, that the name which the defendant has given to his plug tobacco is "Starlight," instead of "Star," tobacco, and is thus distinguished in name not only from other tobacco manufactured by him, which he calls "Sunlight" and "Moonlight" tobacco, but also from all plug tobacco manufactured by the complainant.

Decree affirmed.

Mr. Justice Field delivered the opinion of the court.

Supreme Court of the United States.

THE CRESCENT BREWING COMPANY *vs.* GOTTFRIED.

Decided November 5, 1888.

Appeal from the Circuit Court of the United States for the District of Indiana.

The first claim of Letters Patent No. 42,530, granted May 3, 1864, to J. F. T. Holbeck and Matthew Gottfried, for an improved mode of pitching barrels, is, so far as it is a claim to a process, fully anticipated in the process carried on by means of the Seibel apparatus, and so far as it is a claim to an apparatus used for applying a heated blast to the interior of a cask, the apparatus existed before.

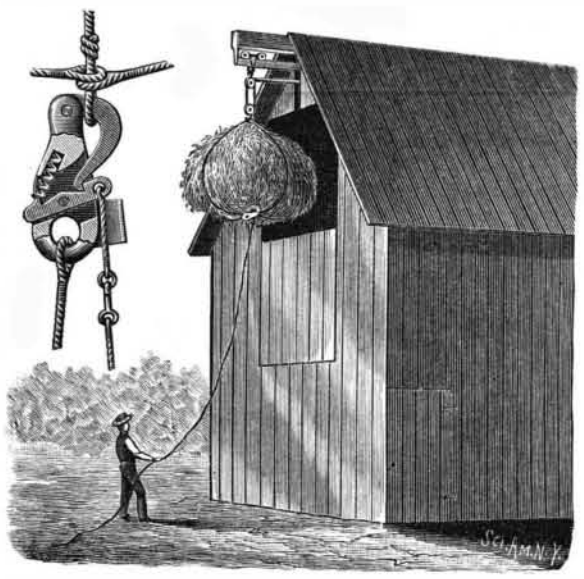
The second claim is not infringed by the defendant's apparatus, it having no removable conductor corresponding to the conductor, E, of said claim.

Decree of the Circuit Court reversed and the case remanded to that court, with directions to dismiss the bill of complaint, with costs.

Mr. Justice Blatchford delivered the opinion of the court.

AN IMPROVED BOTTOM-TRIP SLING.

A tripping device adapted more particularly for attachment to the several binding strands of a rope or chain used for hoisting hay, etc., and whereby the load may be readily released after it is deposited in the desired place, is illustrated herewith, and has been patented by Messrs. Joseph W. Wood, of Baraboo, Wis., and Alvinus B. Wood, of Tacoma, Washington Ter. The body of the clamp is preferably of metal, cast in one piece, a hook being pivoted between ears in its upper end, an outwardly extending lip on the lower end of the hook being adapted to engage a recess in the outer end of a lever pivoted near the lower end of



WOOD'S BOTTOM-TRIP STRAW SLING.

the device, this lever being held in engagement with the lip of the hook by means of a spring secured at its opposite end. The illustration shows the use of the device where four binding ropes are employed, to be united in any approved manner about the bundle of hay or other material, the four ropes to be united in the center by the clamp, while a trip rope is connected with the outer end of the pivoted, spring-held lever, engaging the lip of the hook. When the load is carried to the desired place, a quick jerk on the trip rope releases the hook, permitting the ready detachment of three of the ropes therefrom, while the weight of the load releases the eyes of the other strands, thus depositing the load.

For further information relative to this invention address Mr. J. W. Wood, Baraboo, Wis.

Mr. Keely's Motor.

The Philadelphia court which thought it could keep Mr. Keely in confinement has seen its error. As the *Tribune* has already remarked, Mr. Keely is out of jail and has returned to his motor. Some of the earlier of the stockholders are not yet out of the poorhouse—but this is neither here nor there.

The short and simple annals of Mr. Keely's motor are soon told. Some twenty years ago, more or less, Mr. Keely built his motor. There are a number of pipes, wheels, pulleys, rods, belts, levers, cocks, cams, and cogs visible, besides, it is darkly hinted, a vastly greater number of the same sort of thing under the floor and back of the partition. In front of the motor is Mr. Keely's office, in which there is a large slot. The stockholders drop their money in the slot, and Mr. Keely looks out and watches them walk away. Naturally Mr. Keely is sometimes called upon to explain the workings of his motor by some doubting stockholder. On such occasions he is all smiles, and, conducting the victim into the presence of the machine, he says: "You see, my friend, the way we operate the motor is this: Taking hold of this lever we pull it toward us. This causes the small flip-flap you see there to be withdrawn, allowing the flibber snatcher to fall into its place on the ramrod. As soon as this happens, it acts directly on the hatchway and the slam-bang, causing them to make a half-revolution and start the get-up-and-get motion of the flunker-flopper, which in turn communicates its energy to the button hook and the wapperchock. After these things have run for about five minutes they cause the jig-jag valve to turn, and the asthmatic gas flows through the pipe to the cylinder and gives the wiggle motion to the gilder fluke. That's the point we are striving after—the wiggle motion of the gilder fluke. Why, my dear sir, without the wiggle motion of the gilder fluke you wouldn't think of putting your money into the motor. But, with it, sir, we are—eh, another share? All right, come into the office and I'll have it made out for you inside of a minute."

Professor Keely has been much more successful in the mechanical manipulation of the stockholders' money than in the management of his motor. Taking hold of the middle of a bill, of any denomination, with the thumb and forefinger of each hand, he bolds the end of the bill toward his person. By a dexterous movement of the fingers he causes the bill to fold across the center. Repeating the process, he has it reduced to the proper compass for wadding into his pocket book, which is the next movement. This most ingenious gentleman, Don Keely, then places the purse in his right hand trousers pocket and smiles quietly. The mechanical action is perfect, and leaves nothing to be desired.

Mr. Keely's mental endowments seem to run in particular lines. He appears to have no mechanical ingenuity, his strong point being his ability as a collector. He has one of the largest and best arranged collections of other people's money to be found in the United States. Having, a number of years ago, during a fit of temporary insanity, constructed a machine which, if any power on earth could start it, would explode and pierce the startled dome of heaven with flying fragments of cog wheels and cranks, he now sits down calmly and allows this same mechanical nightmare to make his living for him. This is genius. The man who can create a company, stock in which is placed among the holder's liabilities when he fails, and then continues to sell this stock every day, is doing something that ordinary men of talent cannot do. He has risen above them. This is Keely. He toils not, neither does he spin; but he has got a hysterical collection of crooked pipes and lop-sided wheels tied up in his back room that extract the reluctant dollar from the pocket of avarice without fail.

The Forests of Alaska.

The prevailing forest tree of Alaska, says Mr. George Davidson, of the Coast Survey, is the Sitka spruce, growing to great size, covering every part of the ground, and climbing the steepest mountain sides to the height of 2,000 or 2,500 feet above the sea.

This tree resembles in form and foilage the silver firs of California. In the Archipelago Alexander, *with a shore line of more than* 7,800 *statute miles*, the land is densely wooded from the water's edge. It can never be devastated by forest fires, because the carpet of wet *sphagnum* over the surface of the country effectually prevents fires from spreading.

We measured felled spruce trees that were 180 feet long and 4 feet thick at the butt; while adjacent standing trees measured over 6 feet in diameter, were branchless for over 50 feet, and estimated to be 250 feet high.

Hemlock, alders, and willows are found; but the most remarkable wood of the country is the yellow cedar, with fine, even texture, fragrant smell, good size, and greater strength than the spruce. It is readily worked, takes a smooth surface, and is remarkably durable. It is a valuable addition to the cabinet woods, and is *superior as a ship timber to any on the coast.*

It can be obtained of ample size for frames and knees of ordinary sized vessels. We measured one 18 feet in circumference, and estimated it to be over 125 feet in height. We collected part of the keelson and frame of a Russian vessel built of this wood thirty-two years before, and which had been lying a wreck on the beach for several years. It exhibited no signs of decay nor of *teredo* attacks, and the wood around the copper and iron bolts is nearly as well preserved as on the day they were driven.

On Kadiak Island the forests cease toward the south. The yellow cedar does not grow on the northeast part of the island; but the average size of the spruce is less than two feet in diameter.

Hemlock is found in abundance, and has its value for tanning purposes.

When the forests of Washington Territory and Oregon are exhausted, Alaska will be the great and our almost inexhaustible resource in the future.

The Source of the Mississippi.

J. V. Brower, who has just returned to St. Paul from Itasca Lake, the source of the Mississippi River, will soon make public a map and detailed report of his examination of the Itasca basin. It includes a measurement of the inflow and outflow of all the streams at that point. The true source of the river is disputed, and Dr. Brower's researches locate it in the interior of section 21 of the government survey, in a small lake laid down on the maps and charts of Jean N. Nicollet in 1836, four years after the visit of Schoolcraft, who fixed the outlet of Itasca as the proper point of commencement. The claims made by Willard Glazier in 1881 are found to be false. Mr. Brower was formerly register of the St. Cloud Land Office, and is fully posted in regard to the history and exploration of the locality.

The Integrating Machine.

At a recent meeting of the American Institute of Electrical Engineers, in this city, Mr. B. Abdank said:

There is one of these machines constructed in Zurich by the celebrated constructor, Coradi. To perform the integration it is sufficient to follow with the tracing point the given curve. The integral curve is then mechanically traced by the instrument. The integration of differential equations is a problem that we meet continuously in the physical sciences. We perform an integration in determining the area of a given figure, also in determining the static moments and the moments of inertia, in calculating the shape of the elastic curve.

The planimeter, as you know, gives mechanically the area and the moments. The instrument that you see before you gives much more. It traces a curve that indicates how the integral increases. The curve is the integral curve, the applications of which are extremely numerous. You have seen one of these applications for the determination of the magnetic curve.

I am glad to have had the opportunity to present it to this electrical society, and, as it were, smuggle into your presence a mathematical instrument under the cover of an electrical application. And I do so because the apparatus interests me personally, being myself the inventor of it.

I must also crave your pardon for having addressed you in English, of which language I am not at all a complete master, and I am ashamed because that lack of knowledge is entirely contrary to my principles. I am of the opinion that every electrician ought to be able to speak English. He cannot be a good electrician without being a complete master of that language. Without an intimate acquaintance with the works of Faraday, he is not able to draw conclusions in a simple and logical manner from experiments. He cannot, without being in direct communication with the legion of workers in electricity who speak the English language and who have advanced electricity in this country to a point where it is fifty years ahead of that in Europe, I say, that without knowing it intimately, he cannot keep track of what can be done with that power of nature which we are all attempting to harness.

Mr. Wolcott.—Having been for some time interested in the study of integrating machines of various kinds, and having invented some myself, I can say that I never have seen anything which will approach this instrument. The ordinary type of integrating machine which Mr. Abdank has spoken of will simply give a reading at the end of a given time—simply a single reading of the integral available. All who have given any study to the subject are familiar with the apparatus of Prof. James Thomson, Sir William Thomson's brother, which will integrate any expression involving a single variable. It is simply a disk and a sphere in a cylinder. The distance of the point of contact of the sphere from the center of the disk will represent the variable quantity, that is the function, and if this distance can be made to follow any required law of motion, and that point of contact of the disk is transmitted to the circumference of the cylinder, which is uniform the whole length, it is evident that the motion of the cylinder is proportional to the distance of the sphere from the center of the disk. This apparatus, in combination with others, will also integrate differential equations. I do not think there is any apparatus like this which will trace one curve, the ordinates in which are integrals of the ordinates in the other curve.

Carl Hering.—I would like to say in behalf of Mr. Abdank that one of the features of that instrument besides tracing the integral curve is that it can be used for solving numerical equations which, I understand, cannot be solved algebraically—equations of a high degree, fourth, fifth, and sixth degree. The instrument will trace out a curve the dimension of which will give the values of equations of high degree, and give all the real roots in one curve.

Prof. Mayer.—If the machine will do that, it is a marvelous production of ingenuity and science. Charles Babbage, of England, gave his whole life to making a calculating engine. After he had perfected his differential engine, and the British government would not supply him with means of bringing it out, he invented an analytical engine, of which you will find a description by the only daughter of Lord Byron, Lady Lovelace, which did just what this does. The construction of it would be so difficult that Babbage had not the means of bringing it out. If a machine so simple in its construction will do that, I can see that it is the most marvelous production of this age. I would like very much to understand it. Of course I only see it there and I know nothing of its principle.

The Chairman, Capt. Michaelis.—I understand, Mr. Abdank, to put it in plain language, in solving any equation of the second degree the instrument would describe a conic section, and higher curves according to the nature of the equation.

FOR BRASSING SMALL ARTICLES.—To 1 quart water add half an ounce each of sulphate copper and protochloride of tin. Stir the articles in the solution until the desired color is obtained.

Correspondence.

White and Sugar Maple.

To the Editor of the Scientific American:

Your answer to query No. 21, page 331, to correspondent, that "white and sugar maple are the same," is not correct. White maple is *Acer dasycarpum.* Sugar maple is *Acer saccharinum.* Their resemblances and their differences are stated in all the botanies.

W. C. PECKHAM.

New York, N. Y.

The Highest Peak in the World.

To the Editor of the Scientific American:

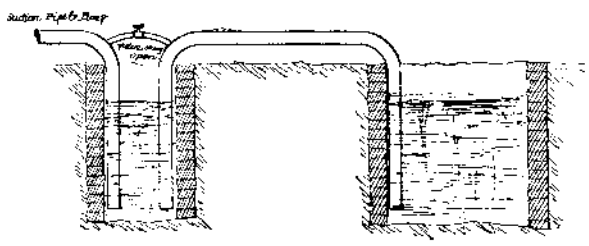
In issue of SCIENTIFIC AMERICAN November 24, 1888, in answer to query No. 21, by O. S., you give Mount Everest, of the Himalaya Range, as the highest mountain in the world. According to Gaskell's New Family Atlas, Mount Hercules, in New Guinea, now claims that honor. Its height is given as 32,768 feet. The same authority gives Mount Everest 29,002 feet, so that Mount Hercules leads the world as the highest mountain by 3,766 feet. THOS. D. GILLESPIE.

Pittsburg, Pa., December 6, 1888.

SELF-CHARGING SIPHON.

In your issue of November 17, page 307, you describe a siphon used by East Orange Water Works. I do not fully understand it, and should be greatly obliged for a diagram of such a siphon. F. S. OAKES.

Cattaraugus, N. Y.



[We give the diagram above as requested. It is self-explanatory.]

Periflora Graeca.

To the Editor of the Scientific American:

I wish to call attention to this curious vine, that has not been much noticed. It is rarely found in the nurseries and seldom seen as a climber in ornamental grounds.

Its flowers are not showy, but curious—greenish yellow below and brownish purple above and singularly formed. Leaves few and opposite, about the size and shape of a peach leaf, but not recurved like the peach leaf. It has a slight inclination to twine, but generally grows straight and of great length, and is about as thick at its extreme point as at the root. The vine is generally about from one-fourth to one-half inch thick from end to end. One of its most striking features is its toughness. It may be tied and untied and used as a rope without breaking. It would not be difficult to grow it 30 or 40 feet long in one season, several vines from the same root, of even size, straight and smooth. We should suppose in basket making or such work it would be quite an acquisition. As to its propagation from cuttings, we have no experience, but it grows readily from roots. J. H. CREIGHTON.

Lithopolis, Ohio.

A New "Strong" Locomotive.

A recent number of the Providence *Journal* describes as follows the new monster locomotive built by the Hinkley Locomotive Company, Boston. She is designed and constructed for the Strong Locomotive Company, New York, for the Atchison, Topeka, and Santa Fe Railroad. It is the latest built of the "Strong" locomotives. The improvements are the invention of Mr. George S. Strong, at one time mechanical superintendent of the Lehigh Valley road.

The peculiarity in the construction of the Strong locomotive is in her furnaces and combustion chamber, her cylinder valves and valve gears, and in the arrangement of her wheels and running gear. The boiler has two furnaces, each one being a welded and corrugated steel cylinder 42 inches in diameter and 7 feet long. These two furnaces are joined by a flanged and corrugated junction piece, a corrugated cylindrical combustion chamber, making the grate area of 50 square feet, with a combustion chamber 9 feet from the face of the bridge wall to the tube sheet, and 16 feet from the fire door to the tube sheet. The total heating surface is 1,650 feet. By this construction all braces and stay bolts and crown bars are done away with, the gases being all consumed and all the smoke prevented. The sparks are not drawn from the fire box, and no spark arrester is required, the engine running without smoke or sparks. The original Strong engine would even burn culm, the refuse of the pit mouth, and this engine will use anthracite or bituminous coal with good results.

The other radical departures in the build of this locomotive are in the cylinders, valves, and valve gear, there being no steam chests on top of the cylinders, as in ordinary engines. There are four valves interposed in the passages back of the cylinders—one for steam and one for exhaust at each end, every valve being a gridiron plain slide. There are nine ports 4¼ inches long on each valve, making 38¼ inches the length of port on each valve. This large valve area admits the steam at very nearly boiler pressure on the piston, and the steam valve cuts it off at the will of the engineer at any place from 4 to 22 inches, the exhaust valve holding on to the steam until the last inch of the piston travels, when it opens wide, letting the steam go freely with very little back pressure. This peculiarity enables the engine, at high speed, to develop about double the horse power that an ordinary locomotive, with equal sized cylinders, 19 × 24 inches, at an equal cut-off, would be able to do, an engine similar to this one having shown the enormous strength of 1,810 horse power while pulling a train of twelve Pullman coaches on the Northern Pacific road at a speed exceeding sixty miles an hour. The same engine has pulled a train of ten cars 148 miles in 148 minutes running time. This was done on a five-foot wheel six-coupled engine.

Returning to a description of the valve gear, the valves are operated by a single eccentric for each cylinder, the eccentric being keyed fast to the shaft or axle.

This eccentric runs the engine both ways, and imparts an independent motion to the steam and exhaust valves, so that the engineer has perfect control over the point of cut-off without altering the travel of the exhaust, and can alter the compression without changing the travel of the steam. In this manner the engine makes the same card or gives the same distribution of steam as a nicely adjusted Corliss or Greene engine would do at a given high piston speed. This enables her to do her work with from 20 to 33 per cent less water, and consequently less steam. Her large grate area enables her to burn her coal so as to give an evaporation from 25 to 33 per cent higher than ordinary locomotive boilers doing the same work, so that the combined action of boiler and valve gear is to make a very economical engine, and one that is capable, it is claimed, of taking an extremely heavy train of from ten to fifteen cars and making 60 miles an hour with ease.

The locomotive has four wheels, swing truck, under her front end, like an ordinary machine. Her drivers, 68 inches in diameter, are midway between the front and rear ends of the boiler. Back of the drivers is a two-wheel pony truck, 42 inch wheel, which is equalized with the drivers, making ten wheels under the engine. The tender is carried on a four-wheel truck forward and a six-wheel truck back, making ten wheels in all under the tender. The total weight is over sixty tons. The engineer's cab is over the hind driver, forward of the double fire box. He has a very extended view of the track on both sides, and is entirely away from the dirt and dust of the tender, and his cab rides as nicely and as cleanly as a parlor car. The fireman has a cab on the back end of the fire box entirely to himself. They have communication by a passage over the top of the fire box between the two cabs, the engineer having a call bell with which to summon the stoker if he wishes to speak with him. The locomotive wheel base is 28 feet; the wheel base of engine and tender, 48 feet; total length over all, about 55 feet. The highest point of the engineer's cab is 13 feet 7 inches from the ground. Her fireman's cab, which, like the driver's, is very roomy, is built of heavy iron plate. The engine has no extended front arch or netting or device for spark arrester, as they are not required.

Pyrotechnic Photography.

A curious photographic apparatus, in which a camera is raised by a rocket and lowered by a parachute, is being developed by a French inventor, M. Amedee Denisse. In its experimental form, the cylindrical camera has twelve lenses round its circumference with a sensitive plate in its center, and is provided with a shutter which opens and instantly closes as the apparatus commences to fall. The descent is eased by the opening of the attached parachute, which is drawn back to the operator by a cord attached before the firing of the rocket. For securing bird's-eye views, the photo-rocket offers several important advantages over balloon photography, such as comparative cheapness in operating and freedom from risk in case of use for military reconnoitering.

Walking on the Water.

C. W. Oldreive lately accomplished the task of walking on the water of the Hudson River from Albany to New York. Distance about 150 miles, wager $500. His average progress was twenty-four miles a day. He always went with the tide.

The shoes he wore are made of cedar, lined with brass. They are five feet long and a foot wide. Each is air tight, with a space in the center for the foot. On the bottom are three fins so arranged that when the shoe moves forward they are pressed up against the bottom, and when the shoe is at rest they hang downward, like paddle wheel buckets.