

through the hall, without any cane, it was difficult to believe that his legs were not both those which nature gave him.

Mr. Marks—"Gentlemen, which is the artificial leg?"

Voices—"The right—the right—the right."

Mr. Marks—"They are both of wood."

Every one was impressed with the immeasurable value of the limbs to this young man, in place of the two stumps left to him on the battle field. It was further stated that he could skate with them very well.

The subject was continued to the next evening, when legs, invented by others, will be exhibited.

NEW INVENTIONS.

Machinery for Cutting Files.—Files to the value of between seven and eight millions of dollars are annually imported into this country from Europe; which value is predicated upon a gold basis. Besides this foreign supply, there are files manufactured in various sections of the United States every year, which are worth between three and four millions of dollars. Thus it may be seen, that upwards of eleven million dollars worth of files are used in this country alone, every twelve months. All of the files thus used, with very few exceptions, are manufactured entirely by hand, at a cost which is necessarily immense. The expense of the cutting alone, of an ordinary twelve-inch file in this manner, is two dollars per dozen. The same work, upon the same file, can be done with this machine at an expense of twelve cents per dozen; and not only so, but the article produced from this machine is of a better quality, and superior in every respect, to that manufactured by hand. Of the many machines for this purpose is one of a very ingenious yet simple character, patented by James C. Cooke, of Middletown, Conn., who has devoted much time and attention of this branch of the subject. The machine consists in a novel construction and arrangement of a cutter stock, applied to a sliding head in such a manner that the cutter is rendered capable of being adjusted, with the greatest facility, in the several positions relatively with the file blank that it is necessary to have in order to cut the file properly. The machine has, also, a novel manner of securing the file blank in its bed, whereby the blank may be secured in the bed and the finished file removed therefrom very expeditiously. The machine also consists in certain means for automatically adjusting the file bed, for the purpose of compensating for any variation in the thickness of the blank, and insuring a cut of uniform depth throughout the entire length of the blank.

Machine for Rolling Iron.—This invention relates to a new and useful improvement in machinery for rolling iron, and it consists in the application of side rollers to the ordinary rolling machines, whereby the edges of the metal, both previous to its passage between the rollers and after leaving the same, are subjected to a pressure, causing the metal to be rolled of an uniform width throughout, and with smooth edges. The invention also consists in a novel means employed for operating and adjusting the side rollers, whereby said rollers may be placed at a greater or less distance apart to suit the width of the metal being rolled, and the rollers at the discharge side of the pressure rollers made to rotate with a greater speed than at the feed side. John F. Lauth, of Reading, Pa., is the inventor.

Treating Peat.—This invention relates to the preparation of crude peat for use as fuel. It consists in a method of treatment, and in devices, by means of which, the cellular character of the peat is destroyed and the tubular fibers, which interlace it in every direction, are broken and crushed, such fibers, after they are broken up, being also thoroughly mixed with the rest of the mass. The peat is brought into a fine, soft, plastic state, the water present in its tubular fibers and in its numerous cells being released and mixed through the mass during the process. In this state it is capable of being molded into blocks of a convenient size for handling or burning. In reducing the peat to this state, any air which is confined in its cells is also released. The result of this destruction of the cellular character of the peat, and of the tubular character of its undecomposed vegetable fibers, and the consequent release of the confined

air, and the intimate incorporation of its decomposed and undecomposed elements with each other, is to bring the peat into a condensed state, in which its bulk is greatly decreased, while yet it retains all, or nearly all, the water which was present in it when dug up. The water is afterwards got rid of to a greater or less extent by evaporation in the open air, or by currents of warm air, or in any other way preferred by the operator. T. H. Leavitt, of Boston, Mass., is the inventor.

Elevator.—This invention relates to a new and useful device for elevating building materials—such, for instance, as brick, stone, mortar, etc.—during the process of the construction or erection of a building. The object of the invention is to supersede the use of the common hod and the windlasses now employed for such purposes. John C. Wandell and James W. Wandell, of New York City, are the inventors.

Tailors' Measure.—The object of this invention is to obtain an implement of simple construction by which any one of ordinary ability may, after obtaining the measure of a person, lay out or mark the cloth so that the same may be cut in the most economical manner, and the garment, when made, fit perfectly the person measured for the same. The cutting out of garments so as to economize in cloth requires considerable skill and practice, and a good cutter can always demand a large salary in ready-made clothing establishments—in fact, a good cutter is not always readily obtained at any price. George Beard, Philadelphia, Pa., is the inventor.

Device for Cleaning Flues of Steam Boilers.—This invention relates to an improved method of cleaning the flues of tubular boilers, whether of locomotive or other engines, or tubular boilers used in other connections. The flues of such boilers very rapidly become foul with deposits of soot, ashes, and cinders, which choke some of them and consequently diminish the steam-generating capacity of the boiler. The usual method of cleaning the flue tubes is by the use of scraper and brush, which implements are sometimes used with great carelessness, and when used with diligence and carefulness they demand a great expenditure of time and labor. If the flues are not well and properly cleaned a great waste of fuel is one of the results. This invention is intended to accomplish the cleaning of the flues with ease, expedition and economy of time and labor, and consists in connecting a steam pipe with the boiler or steam chest at any convenient point, and placing a suitable nozzle or jet at its end which can be inserted within the flues at either end of the boiler. The pipe may be gas pipe or any other which will endure the pressure of the steam which in locomotive engines is often very great, and it is made with joints at convenient places therein, so as to be capable of being turned in any direction. A cock is placed on the pipe near the boiler to shut off steam from the apparatus when not in use, and another cock is placed on the nozzle, or near it, to shut off steam when running from tube to tube. It may be applied to the tubes through the smoke box or through the fire box, and by its use a boiler with one hundred tubes can be cleaned in five minutes, and done so perfectly that only adhesive particle of crust and dirt will be removed, and the flame and heated air from the fire be allowed to act with full effect on the clean surface of the metal, thereby saving a considerable amount in fuel. Daniel McDowell, Kingston, Jamaica, W. I., is the inventor.

Oil Smellers.

The wizard characters who figured so extensively in locating wells, in the incipient stages of the oil excitement in Venango county, are not all dead yet. Unlike other prophets, they seem not to be without honor in their own country. Strange as it may seem to those who trust to the more legitimate sciences of geology and mineralogy as guides in searching for petroleum, there are men who profess by means of magic to locate the deposits of oily treasure. While geologists are carefully noting the succession, dip and strike of different strata of rock, and searching for signs of upheaval from which to infer fissures full of petroleum in the sandstone of one period or another, the "smeller" with his magic stone and forked willow in hand, marches with dignified gravity over the land, purchased on suspicion of oil, until

his magic wand informs him where to strike. It is strange what a hold these professional humbugs have upon the credulity of those who are afflicted with oil on the brain.

The Titusville *Herald*, noticing the fact of the strike near Petroleum Center, mentioned in another column, says: "From the fact this territory has produced but little oil lately, the peculiarity of this strike is noticeable. The 'spot' was located by Messrs. P. & D., who were, as are all 'oil smellers,' confident of success. That they succeeded beyond a doubt, the well is positive proof. The question whether or no they can locate a good producing well every time is yet to be decided by actual test. So far they have not missed. The big well on Smith Farm, Cherry Run, lately struck, was also 'smelt out' by them. They have in their possession a kind of chemical, or 'magic stone,' with which they operate. Several parties have tried to prove their *mode* a humbug, but so far have always failed."

One of the failures referred to is stated as follows: A bucket of oil was placed in the cellar of a house, unknown to the gentlemen. They were invited in, and during the conversation were asked to try their chemical stone. The magic stone was balanced, and behold it indicated the spot so correctly that had a hole been bored in the floor directly under the stone, a plummet dropped through it would have fallen into the bucket. Our friend of the *Herald* does not say whether the chemical stone indicates the depth at which the oil will be struck, but we would advise Messrs P. & D. to offer to show this also. They might, in addition, indicate whether the oil will be lubricating or not. For such additional information they might add to their fee. They need not fear that by promising too much they will create doubts in the minds of their employers, for it is just as reasonable that they know the depth and quality of oil as to discover its locality.

But the "chemical stone" is not the only material that possesses this wonderful oil-indicating power. A forked branch of willow in the hands of one of these professional gentlemen, is just as efficacious as the "stone." The prophet of the willow school, having selected a suitable branch, holds the stem of it firmly, keeping the branch in a horizontal position, and proceeds upon his inspecting tour with no less gravity than he of the chemical stone. When the place where oil is to be found is reached an irresistible and unknown power turns the branch directly in the direction of the charmed spot, and the employer's fortune is made. The willow knows its friends, and cover requires to operate except for certain favored individuals. A third class of "smellers" have made their appearance in the Canadian oil field who use neither stone nor willow. This set are disciples of a more spiritual school than their cotemporaries of Venango. They probably have imbibed their inspiration from the pages of "Footfalls on the Boundary of Another World," or the more recent and eloquent "Man and his Relations." An exchange thus describes the *modus operandi* of one of them: He leaves his comfortable quarters at the hotel, and proceeds at his leisure across the fields, or along the bank of the winding river, ever and anon tracing up ravines, and occasionally may be seen standing on one foot like a lame duck in a puddle, with his eyes riveted upon the ground. He claims that while both feet are on terra firma the magnetic circle is formed, and the same sensation is not felt in his nervous system as when the connection is broken, and all the charge is received in one limb, and whenever oil is beneath him, no matter how distant from the surface, he experiences a certain oily sensation. There are those who are earnest believers, while others refuse to receive the "revealed science."—*Petroleum Times*.

FORTUNE plays some queer pranks. One occurred to a poor widow woman, who did washing for a living in Pithole. She owned a small piece of ground, and some friends got her consent to sink a well upon it, the result of which is a barrel of oil every ten minutes. She has had several offers of matrimonial engagement from disinterested parties, since.

BILLIARD CONTEST.—Messrs. John Deery and John McDevitt, both professional billiard players, contest for the championship, at the Cooper Institute, on Tuesday evening, March 13th.

Improved Thrasher and Separator.

Machines for thrashing, separating, and cleaning grain at one operation, have long been in use, and the many improvements on them have, in most cases, been on the working parts or internal arrangements.

The thrasher here illustrated, so far as relates to its working parts, is similar to those now in use; the change being in the construction of the frame of the machine, whereby it is greatly simplified and rendered capable of being constructed at a much less cost than heretofore; besides, the machine is so nearly balanced on its wheels as to greatly facilitate its operation and transportation. The following description will render the principal improvements familiar to the reader:—

The frame of the machine is constructed of wood, and is almost complete in two wide boards or timbers, A, which run parallel to each other the entire length of the machine; they are of sufficient strength to support all the working parts of the separator. Near the center is an axle, B, on which the machine is nearly balanced, and may be readily moved from place to place, and also adjusted for operation. This is a very important feature as it admits of its being adjusted for use where the ordinary machines cannot be conveniently placed. It is supported while in operation by two wheels. The front or cylinder end is lowered to the ground, which is but the work of one man, and the machine is then in a most convenient position. Every man is on the ground to work, and the thrashing cylinder, being low, is convenient to supply with grain. The machine will set much more steady and run lighter than the ordinary machines. The accompanying engraving represents the separator ready for operation, and all that is required to prepare it for transportation is simply to raise the front—done by one man—and place it upon the trucks. This brings the machine level and renders it capable of being transported over rough or sideling roads, without danger of upsetting.

This thrasher was patented through the Scientific American Patent Agency by C. B. and W. T. Brown, on June 6, 1865, and it will be known by the name of the "Star of the West." For information in relation to buying or leasing rights address the patentees at Box 345, Alton, Ill.

PLIMPTON'S PARLOR AND ICE SKATES.

A few weeks ago we alluded to the private skating rooms of Mr. Plimpton, on the corner of Tenth street and Fourth avenue, in this city. Many inquiries having been made in regard to the kind of skate made and used by Mr. Plimpton, we have had engraved and present therewith illustrations of both the parlor and ice skate; or, strictly speaking, the patent skate, with the roller and "runner" attachment—the same frame answering the purpose for both in-door and out-door sport.

In the accompanying illustration, Fig. 1 represents a roller skate with a pair of wheels at the toe and heel. These rollers are turned or guided so as to make any desired curve by the rocking of the sole plate, or the proper inclination of the foot of the skater. The rollers set squarely upon the floor, whether the foot be inclined or upright; in this manner sufficient adhesion is obtained to prevent the skate from slipping sideways while turning short curves, etc. By thus dispensing with all rough, soft, or elastic substances, as formerly used upon the rollers, a very easy running skate is obtained. The point upon which the skater rocks, or changes from the inside and outside edge balances, is quite near the foot; and the screw with elastic washer that holds the wheel, hangs in place, can be adjusted so as to afford more or less support for the ankle, while the foot is prevented from turning sideways beyond a

given point, thus obviating one of the first and greatest annoyances in the art of skating. These skates do not require tight strapping that interferes with the free play of the muscles or circulation of blood in the foot, hence it may be readily attached to any ordinary boot or shoe by the perfectly adjusted fastening of the inventor, as shown in Fig. 1. But if the

with the movement of the skate. Therefore an ice skate, working upon the same principle as the roller, is desirable, as then, whatever is learned upon the ice is attainable upon the floor; and this new system of roller skating can be practiced at all seasons as a popular entertainment and beneficial exercise for old or young of either sex.

The convertibility of the roller to a skate for the ice, as shown in Fig. 2, is of no little importance. This change is quickly made by removing the roller portion of the skate and substituting the ice runners, which are arranged to rock freely, so that either pair of runners may be raised from the ice without disturbing the bearing of the other, and also to accommodate the runners to inequalities, etc. The steel bar beneath the center of the skate comes quite near the ice and prevents the runners catching in cracks and other imperfections in the ice, thus greatly lessening the liability of accidents from

falling, etc.

Each skate has four steel runners, the edges of which are ground straight across and slightly curved lengthwise. These runners are set so as to present an edge to hold upon the ice. When the skate becomes dull from use, the screw that secures the runners is loosened and the runners turned half round, thus presenting smooth sharp corners, and by taking out the screws and turning the runners over, the two remaining edges can be used; and thus the skate is made sharp from time to time without the trouble and expense of grinding.

For the ice alone the expensive construction of these skates would seem to prevent their general use, but when we consider that the two skates combined form the ready means of skating at all seasons and in the most agreeable manner, the expense necessary to their proper construction will not be considered by those who require the exercise or consult their own comfort and enjoyment.

On the Fifth Avenue pond, and at private in-door skating parties, we have seen some of the most dexterous movements performed upon these skates that we have ever witnessed, a simple enumeration of which would encroach upon our limited space, therefore we refer our readers to the inventor, J. L. Plimpton, No. 145 Tenth street, this city, an enthusiast on the subject, who, after devoting many years and a vast expenditure, takes much pleasure in illustrating to those interested, that skating is a science as well as an art, and that the highest perfection in the art is by no means confined to the ice.

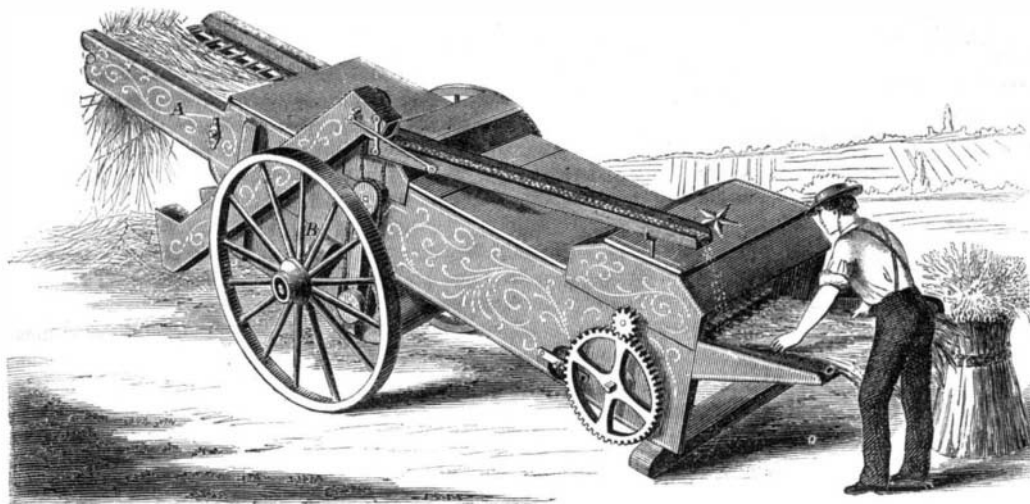
Work at the Patent Office.

We are happy to observe that the work of the Patent Office is being rapidly brought up. For six months past the number of applicants for patents has been so great that it has been impossible for the Examiners in some of the classes to keep their work up, but we are happy to learn that the delay experienced by inventors along back is not likely to exist much longer.

"The Summit Radiating Paddle Wheel."

The inventor of the paddle wheel illustrated on page 134 of the current volume states that the title was incorrectly given by us, and that it is known as the "Summit Radiating Paddle Wheel" in distinction to other feathering wheels, the buckets of which radiate from the center. A model of this wheel can be seen at our office.

HEAVY WEEK'S WORK.—For the week ending March 2, EIGHTY FOUR patents were ordered to issue at the United States Patent Office in cases prepared at the Scientific American Patent Agency.

**BROWN'S THRASHER AND SEPARATOR.**

boot or shoe is unnecessarily loose, straps can be readily applied to the same fastenings, as shown in Fig. 2.

Fig. 1.



As these skates are guided through all the evolutions of skating wholly by a proper and educated adjustment of the foot, persons learning upon the

Fig. 2.



ordinary ice skate, which can be readily forced to accommodate balance, are unable to use the new skate until they acquire, by much practice, this careful adjustment to the foot, and conform their balance strictly