

the cement to pack together into much less space than it would otherwise occupy. One man heads for two packers. A barrel ready for shipping is worth about 80 cents. The capacity of the mill is 60,000 barrels a year. This cement has a good reputation, and the company have all they can do to fill orders. Besides furnishing cement for various railroads and for government custom houses, they supplied 50,000 barrels for the new Capitol at Albany, and sent also 20 car loads for the State House being built at Indianapolis, there being in each case numerous competitors.

There are many other cement mills in the country, all run, however, very much in the same way. The Buffalo Cement Company make two grades, having no material chemical difference, but differing in process of manufacture. The ordinary cement is bolted, by which means the vitreous grains are separated and ground over again into what they brand as the "Buffalo-Portland Cement," and which, it is claimed, makes a remarkably hard and durable concrete. This process is patented by the inventors.

One of the oldest cement mills in the West belongs to Mr. W. F. Beach, of Clarksville, Indiana, and is situated near the Falls of the Ohio. The bed of hydraulic limestone here is 14 feet thick, and, according to Prof. E. T. Cox, its outcrop has been traced on 25,000 acres of exposed workable beds, and there are probably 20,000 acres more that may be reached by shafts or tunnels. Beach's mill has a capacity of 50,000 barrels per annum. Eleven mills in all are reported as running in 1879 in the State of Indiana. Six of them, together with those on the Kentucky shore, were, and probably are still, united under the name of the Union Cement Association, and the material made by them is known in market as the "Louisville Cement." A year or two ago I saw a statement that their annual capacity was 400,000 barrels, and their actual sales for the preceding year were 391,166 barrels. The supply is practically inexhaustible, and the demand is constantly increasing, as the public is becoming aware of the many uses to which cement is put already in Europe, and which it may also advantageously serve in our own country.

DECISIONS RELATING TO PATENTS.

U. S. Circuit Court—Southern District of New York.

CAMPBELL vs. JAMES, et al.—CANCELING STAMP.

Wheeler, J.:

1. The reissued letters patent No. 4,143 (Division A), granted to Helen M. Ingalls, October 4, 1870, for an improvement in postmarking and canceling stamp, the original patent having been granted to Marcus P. Norton, April 14, 1863, and reissued to Jacob Shavor and A. C. Corse, August 23, 1864, and reissued to M. P. Norton, August 3, 1869, declared valid.

2. The judgment of the Commissioner of Patents in disbaring a solicitor for surreptitiously placing a copy of a caveat in the official files extends only to the exclusion of the solicitor, and not to the effect of the paper as evidence *in pais*, although its effect upon the instrument as a caveat of record might be greater.

3. Where a document is introduced in evidence by a defendant to prove admissions by the inventor inconsistent with his claim, such document is legitimate evidence according to what should appear its just weight, as well as those facts in favor of the inventor as to such as are against him.

4. Although the weight of evidence might be in the defendants' favor if the question as to prior use of the invention were to be determined upon a fair balance of proof and upon the parol evidence alone, still, in order to defeat the patent by showing an invention prior to a clearly established one of the patentee, it must be as clearly established to the extent at least of removing all fair and reasonable doubts.

5. By the provision of the act of 1836, section 15, it was only public use or sale with the consent and allowance of a patentee before the application for a patent that would defeat the patent. The act of 1839, section 7, did not change the character of the public use or sale that would defeat a patent, but provided that no patent should be held invalid by reason of them unless "such purchase, sale, or prior use has been for more than two years prior to such application for patent."

6. The defense of public use for more than two years prior to the filing of the application upon which the patent was granted must be clearly proven. A private use for testing the invention, and informing the inventor as to its perfection and usefulness, with the design on his part all the while to procure a patent, will not sustain such defense.

7. If the reissues of an original patent are for any other or substantially different invention from that described in such original patent, they are unquestionably void; but the fact that the specifications or claims are different, the invention or discovery remaining the same, is of no consequence.

8. If a form of a device embraced in a reissued patent had not been mentioned in the original patent, it might well be said not to have formed any part of the conception of the inventor; but if described in such original patent, although referred to as not being so useful or desirable in the combination as another form of such device, it might nevertheless be properly embraced by the reissued patent.

9. It is doubtless true that a reissue of a patent to a person not the owner would not affect the title of the owner. The reissue and title should go together to make a good title to the reissue, or at least the reissue should be consented to by the true owner.

10. The defense that the plaintiff's title fails because one

of the parties through whom such title is derived did not own the patent when it was surrendered by and reissued to him was sought to be sustained by showing that a certain instrument of writing was forged by such party by placing it before and attaching it to the genuine execution of another and a different instrument. It appearing that the parties whose assignment such instrument purported to be had knowingly acted under the same: *Held*, that this ratified and confirmed the instrument as good from the beginning.

11. A conveyance executed by the signature of a company with seal, and by S., president, and another seal, is a good execution both for the company and for S. individually.

12. It appearing that the conveyance was one expressly in trust, upon condition that the plaintiff should have the sole management of the trust until a fair, just, and reasonable settlement should be had with the United States for the use of the invention in the postal service of the United States by the Post Office Department: *Held*, that as no such settlement had been made the limitation in the conveyance had not expired, and the right to bring suit for infringement was in the plaintiff.

13. The grant of letters patent for an invention is exclusive throughout the United States, and reserves no right to the Government to use the same.

United States Circuit Court.—Southern District of New York.

CAMPBELL vs. JAMES et al.—PATENT CANCELING STAMP.

Wheeler, J.:

1. The bill charged infringement by defendant while the patent was owned by plaintiff's assignee, and set forth in *hæc verba* the assignment of the patent, together with "all the right, interest, and claim for and to the past use of said invention and improvement under the said letters patent," and prayed for an injunction and for an increase of damages, "in addition to the profits and gains to be accounted for by the defendant," together with "such other and further relief as shall be agreeable in equity." *Held*, that the assignment which was proved by the instrument itself applied to infringement before as well as after assignment, and that the plaintiff was entitled to recover under such bill without doing violence to any of the well settled rules of pleading.

2. It is now well settled that savings in cost by infringement of a patent may be recovered as profits. (*Carwood Patent*, 94 U. S., 695; *Elizabeth v. Pavement Company*, 97 U. S., 126.)

3. An exception to the Master's report that the defendant might have used other forms of canceling stamps which would not have infringed, and that the saving by using plaintiff's invention instead of such other stamps would have been much less than that reported, *overruled*, it not appearing that any such other form was known to defendant or that the use of the same would not also have been an infringement.

4. An exception taken to the Master's report on the ground that plaintiff's device is one which can be used only by the postal service, which is wholly monopolized by the Government, which could send letters without postmarking them, or could lessen the frequency of the mails so that the postmarking could be done separately from the cancellation of the stamps by the old method without increase of clerical force, thus leaving the invention subject as to use and value entirely to the will of the Post Office Department, so that the use of it in the postal service would not deprive the owner of any opportunity to have it used otherwise and could not damnify him, and that, therefore, no damage can be recovered in the case, and that no profits can be recovered because there is no party before the court or that can be brought before the court who has received any, *overruled*, it appearing that the Post Office Department required the mails to be sent with certain frequency, and that the stamps should be canceled and the letters marked separately, and required that the defendant should do this either himself or by the employment of clerks to be paid by him out of the surplus revenues of his office.

5. Neither the official character of the defendant nor the fact that he turned over to the Government the savings made by the use of the patented invention can shield him against the owner of the patent.

6. The circuit courts have jurisdiction of all questions concerning the title to a patent and the right to recover for infringement of the same under the patent laws of the United States, irrespective of whether the parties to a suit are citizens of the same or different States.

7. Conveyances *pendente lite* do not at all affect the litigation as between the parties to the original controversy unless there are special statutes or circumstances to control; but courts of justice, even courts of law, and especially courts of equity, often protect the rights of the real owners to the fruits of a recovery as against those who are nominal but not real owners whenever their rights may have been acquired.

8. All interests in patents are assignable by an instrument in writing. No particular form is required; but still there must be some operative words expressing at least an intention to assign in order to constitute an assignment.

9. An instrument which makes no allusion to a patent further than to mention a claim for the use of the invention embraced therein cannot act to carry the patent. The fact that it was recorded in the Patent Office cannot make it an instrument of title, but could only complete its effect if it was one.

10. It is not important in equity proceedings for every pur-

pose that all the parties to the controversy should be upon opposite sides in the formal pleadings. It is sufficient that they are citizens of different States on opposite sides of the dispute, although not on opposite sides in the pleadings, for the removal of the case to the Federal courts.

11. An assignment of all property, except such property as is exempt by law from levy and sale under execution, cannot transfer a patent right.

U. S. Circuit Court—District of Rhode Island.

MILLER et al. vs. SMITH et al.—DESIGN PATENT.

Clifford, J.:

1. The introduction in evidence of letters patent affords a *prima facie* presumption that the patentee is the first and original inventor, and is sufficient to entitle the complainants to a decree, unless it is overcome by competent proof of greater weight.

3. Regulations and provisions applicable to the obtaining or prohibition of patents for inventions or discoveries, not inconsistent with the existing patent act, apply to patents for designs, without modification or variation.

3. Exhibits introduced by a party without needful explanation do not deserve and will not receive much consideration.

4. When the defense of want of novelty is made it is the duty of the tribunal, whether court or jury, to give it effect; but such proof or testimony should be weighed with care and never be allowed to prevail where it is unsatisfactory, nor unless its probative force is sufficient to outweigh the *prima facie* presumption arising from the introduction of the patent.

5. In the case of a design as well as a mechanical patent mere delay in applying for a patent will not forfeit the inventor's right to the same or present any bar to a subsequent application, providing the invention had not been in public use or on sale two years before the filing of the application.

6. A patent for a design consisting of letters of the alphabet having a described ornamentation is not bad because it embraces more than one letter.

7. While it is true that the test of infringement in respect to the claim in a design patent is the same as in respect to a mechanical patent, it is not essential to the identity of the design that it should be the same to the eye of an expert.

8. If to the eye of the ordinary purchaser the designs are substantially the same, if the resemblance is such as to deceive such an observer and sufficient to induce him to purchase one supposing it to be the other, the one first patented is infringed by the other.

ABSTRACT.

The record in this case shows that the patent is for an alleged new and useful design for jewelry of the various kinds specified in the description given in the specification. It consists of the letters of the alphabet, shown by photographic illustrations, which are of a rustic pattern ornamented by leaves, the claim being for sleeve buttons and other jewelry, composed of the letters of the alphabet, and having the described ornamentation of letters, substantially as given in the description and shown in the photographic illustration accompanying the application for a patent.

Rustic letters are employed, by which is meant, as the complainants allege, letters in which the necessary lines in the same represent the branches or trunks of trees unstripped of their bark, the ornamentation consisting of several separate leaves placed at intervals upon the lines of each letter, the lines exhibiting the appearance of the bark of a branch or trunk of a tree, which design is used for ornamenting buttons, studs, lockets, and other articles of jewelry. Photographs of the improvement were taken directly from gold sleeve buttons having leaves upon the letters in actual relief as given in the descriptive portion of the specification.

Sufficient appears to show that the complainants were jewelers, and that for a series of years they had been endeavoring to produce an initial letter sleeve button which would be more ornamental and better suited for ladies' wear. Proofs were introduced showing many such experiments and giving a history of the efforts to that end, and an account of the time and expenses incurred for its accomplishment, all of which resulted finally in producing the patented design. Experienced witnesses testify that they know of no other design relating to this class of goods which has been as successful as the subject of the patent in controversy, and the court is convinced that the invention is highly acceptable to the public and profitable to the patentee.

Inventors may, if they can, keep their inventions secret, and if they do it is a mistake to suppose that any delay to apply for a patent will forfeit their right to the same or present any bar to a subsequent application. Nor does any different rule prevail in the case of a design patent. Delay less than for the period of two years constitutes no defense in any case; but the respondents may allege and prove that the invention in question had been in public use or on sale more than two years prior to the application of the party for a patent, and if they allege and prove that defense they are entitled to prevail in the suit. Due allegation in that regard is made in this case; but the record contains no proof to support it, and it must be overruled. From all which it follows that the patent is a good and valid patent, and that the complainants, if they have proved the alleged infringement, are entitled to a decree in their favor for the profits made by the respondents in the violation of their exclusive right to make, use, and vend the improvement secured by the letters patent.

Both the testimony of the complainants' expert and the comparison of the exhibits made by the court are decisive that the manufacture by the respondents is, in the sense of the patent law, substantially the same as that of the complainants, which shows that the complainants are entitled to an account.

Decree for complainants.

By the Commissioner of Patents.

(Appeal from the Examiners-in-Chief.)

MCTAMMANY JR., vs. NEEDHAM—AUTOMATIC MUSICAL INSTRUMENTS.

Marble, Commissioner:

1. It is not necessary that an applicant, in order to defeat a patent, should show that he conceived the invention and reduced the same to practice before the time at which such invention was conceived by the patentee.

2. To defeat the rights of a patentee it is sufficient to show "that he had surreptitiously and unjustly obtained the patent for that which was in fact invented by another who was using reasonable diligence in adapting and perfecting the same."

3. Diligence in perfecting an invention is a relative matter, and the law does not require that an inventor who is engaged in developing a number of improvements at the same time should devote all his time and energy to any one at the expense of others.

4. When an applicant has once reduced an invention to practice the question of diligence in applying for a patent is one between him and the public, and can only enter as an element in the question whether the completed invention was abandoned by him to the public.

Destruction of a Lighthouse by an Earthquake.

Telegraphic information has been received at the Hydrographic Office, Admiralty, from the officer commanding the naval forces in the Dutch East Indies, that the stone lighthouse on First Point (Tanjong Koelong), Java, the south point of entrance to the Strait of Sunda, separating Java and Sumatra, has been thrown down by a violent earthquake.

AN IMPROVED TELEPHONE.

The engraving shows an improved form of telephone receiver and transmitter, and a very convenient combination of the two instruments, lately patented by Mr. John P. McDermott, of Galveston, Texas.

The combined instrument is designed to be worn upon the head, as shown in Fig. 1, so that the user may hold telephonic conversation without regard to position, and listen without fatigue or inconvenience to lectures, concerts, etc. This arrangement possesses the advantage of excluding extraneous sounds and of preventing bystanders from hearing what is said in the transmitter. The receiver magnet consists of thin strips of magnetized steel having a U-form and adapted to the head. The ends of the magnet are curved to receive the support for the diaphragms, mouthpieces, and bobbins. The iron cores of the bobbins are inserted in the curved portion of the magnet.

The transmitter is attached to the receivers by a swinging elastic yoke, which renders it adjustable to the mouth of any user and admits of readily removing it from the mouth when not in use. A cloth band passes around the back of the head to hold the apparatus in its proper position. The compound magnet is covered with silk or other suitable material. This covering conceals the primary and secondary wires and protects them from injury.

The transmitter consists of a non-conducting mouthpiece, and a chambered hemispherical block containing two semicircular plates of carbon insulated from each other, and connected by a wire with the two metal pieces forming the yoke which supports the mouthpiece. A plane disk of carbon rests upon the two semicircular carbon plates and is free to vibrate upon them.

The primary current passes through the yoke and through the carbon disk and the two semicircular carbon plates. The variations of contact produced between the three carbon surfaces by the action of sound waves on the carbon disk disturb the primary current, inducing undulatory currents in the secondary wire of the induction coil.

The primary and secondary circuits differ little from the common practice. Mr. McDermott has dispensed with a special call bell magnet, using the magnet of the induction coil for the purpose of operating the bell hammer armature.

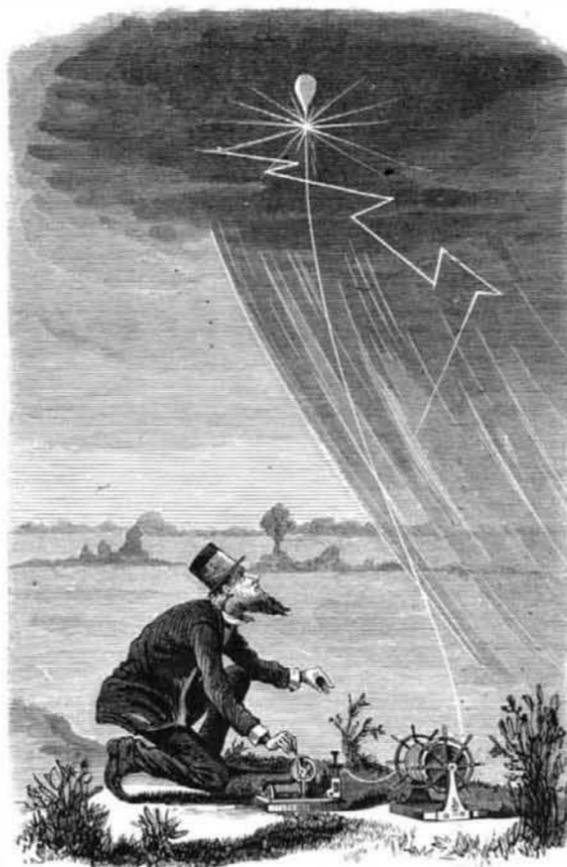
This arrangement of telephone transmitter and receiver possesses many obvious advantages; for example, it would be very convenient in cases of writing by dictation, or of stenographers recording speeches. Persons may remain at home listening to public addresses, sermons, or concerts, sitting comfortably and listening without the slightest inconvenience.

This invention enables two persons to carry on a conversation as readily as if they were in each other's presence. As the entire apparatus weighs but a few ounces, its weight is not at all noticeable. It is unnecessary to point out the further advantages possessed by this novel arrangement, as

they will be apparent to those understanding the requirements of telephonic communication.

NOVEL METHOD OF PRECIPITATING RAINFALLS.

A patent has recently been issued to Daniel Ruggles, of Fredericksburg, Va., for a method of precipitating rain storms, which, judging from a well known precedent, is not



PRECIPITATING RAINFALLS BY MEANS OF EXPLOSIVES.

entirely chimerical. It has frequently been noticed that heavy cannonading is followed by a fall of rain. Profiting by this suggestion, Mr. Ruggles has invented a method of producing a concussion or a series of concussions in the upper regions of the atmosphere which he believes will induce rain.

The invention consists in brief of a balloon carrying torpedoes and cartridges charged with such explosives as nitroglycerine, dynamite, gun cotton, gunpowder, or fulminates,

Fig. 2.



McDERMOTT'S TELEPHONE.

and connecting the balloon with an electrical apparatus for exploding the cartridges.

Our engraving represents an individual in the act of bringing down the rain.

Mining in Maine.

In an extended review of the progress and prospects of mining in Maine the *Mining Journal* furnishes the following information with regard to the present condition of the more important mines of that State.

Several of the Blue Hill mines are about to be supplied with smelters. The Sullivan mill is turning out bullion,

the Waukeag is in magnificent ore, which grows richer and richer with every additional foot of depth, the Milton at a depth of 160 feet, and the Grant at 100, are on the eve of cutting their respective ledges. Further east, at Gouldsboro, the concentrating mill is about to demonstrate the value of the ores of that section. The mines of the Bagaduce region are, at the slight depth attained, showing ores of wonderful richness and in considerable quantity. The Deer Isle is making regular shipments of ore and, as we have before stated, is now on a paying basis. In the Hampden district the Con. Hampden is cross-cutting for the vein at a depth of 200 feet and will probably reach it within a few days. The Lawrence cross-cut has penetrated the vein, and rumor says that very fine ore is being taken out. Recently active work has been commenced by New York parties at two different points upon the Hampden lode, both lying between the properties of the Con. Hampden and Norombega Mining Companies.

There are many other valuable properties scattered all over the State, but we have mentioned a sufficient number to show that mining matters in Maine are progressing favorably and that the industry is rapidly assuming extensive proportions.

MECHANICAL INVENTIONS.

An improved machine for preparing wood pulp has been patented by Mr. John C. Potter, of Orwell, N. Y. The invention consists in a revolving head fitted with cutters having serrated edges, and combined with a sliding carriage for carrying the log. The cutters act in the direction of the grain of the log to reduce the wood to pulp as the carriage reciprocates back and forth.

Messrs. Edgar C. Hall, of Ione, and Charles D. Smith, of Amador City, Cal., have patented a vise. The object of this invention is to provide a device for securely holding wedge-shaped pieces of iron or other material. The invention consists of a movable vise jaw supported on a ball and socket joint or joints, so that it may have lateral and angular adjustment.

Mr. Genry A. Chapman, of Strawberry Point, Iowa, has patented a simple, strong, and effective tool that serves as a cutter and wrench for pipe and as an ordinary monkey wrench. The tool has a movable reversible jaw whose lower end rests against an adjustable nut, which traverses on the screw-threaded handle of the tool, and whose upper or operating end is held to the shank of the fixed jaw by a yoke, and is adjustable by a set screw in the yoke.

What is a Cold Bath?

The season of the year when very many people who have experienced pleasure and advantage from a daily cold bath have to discontinue the practice is come. Months will elapse before the return of genial weather will allow of their indulgence in what may be termed man's natural stimulant. Among the young and robust there are a large number who are able to bathe even in the depths of winter; the advantage of so doing is, however, questionable. But let it be once well understood what a cold bath really is, and the course by which we can avoid Scylla and Charybdis will be obvious. A cold bath is not necessarily a bath in water of the temperature of the atmosphere. A bath is truly and really cold when it produces a certain physiological effect—a slight momentary shock followed by pleasant and lasting reaction. These effects are for the majority of people most pleasantly obtained by bathing in water about 35° to 40° below the temperature of the body—the usual temperature of unheated water in June and July. Bearing this in mind we can enjoy our physiological "cold" bath as safely and pleasantly at Christmas as at mid-summer, and there is no necessity for the most timid or weakly to discontinue his morning tub because the summer weather is over. When the water sinks below a temperature of 60°, let it be heated to that point and then used, and we shall still have our "cold" bath, though of heated water. The daily stimulant effect of such a bath is so beneficial to the great majority of persons and is of such marked service in maintaining health, that it is very important to have it widely known that a cold bath may be taken all the year round, provided cold is not mistaken to mean "at the temperature of the outer air." To heat our bath during the winter months is too often thought to be unmanly, while in reality it is truly scientific, and to bathe in unheated water all the year round, whatever the temperature that water may be, is to prove one's self an ignorant slave of outward circumstances.—*Lancet*.

STEAMSHIPS for whaling service have been in successful use on the Atlantic for several years. The first to invade the northern Pacific, the *Mary and Helen*, of New Bedford, recently arrived at San Francisco from a successful cruise in the Arctic Ocean. She had taken a full cargo of oil and 45,000 pounds of whalebone, together worth over \$100,000, the proceeds of one season's work. The consort of the *Mary and Helen* left New Bedford for the same fishing grounds last summer.