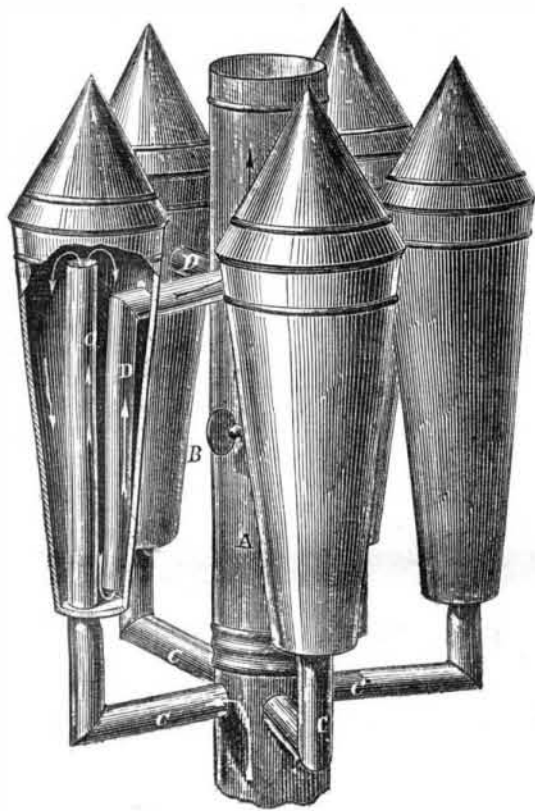


LAKIN'S PATENT HEAT RADIATOR.

For the purposes of radiating heat, ordinary stoves, furnaces, and heaters present too small an area of the outer surface to properly warm the surrounding atmosphere, the heated gases being confined and compelled to climb the chimney, instead of loitering by the way and giving out their superabundant heat. Appliances for delivering this wasted carbon can be made useful and at the same time ornamental. Such is that seen in the accompanying engraving. A series of upright inverted cones of sheet metal, capped with cones, are arranged around the draft pipe and connected to it by tubes.

A is the central pipe, with an ordinary damper, B, which, when open, permits the gases of combustion to pass unimpeded to the chimney flue. Branch pipes, C, extend in angles or curves from the central draft pipe up into the inverted cones to near their tops. The heated air, being light, passes through these tubes and impinges upon the cone-like caps, from which it is deflected down and passes out through the tubes, D, open at the bottom, to pass into the central draft tube to the chimney, through apertures above the damper. The arrows show the direction of the heat currents. The heat gases impinge upon every side of the cone, and thus greatly enlarge the heating surfaces. If no additional heat beyond that of the usual direct draft is required, the damper, B, may be opened, when the course of the gases will be as in an ordinary stove pipe without any appliances, and the draft will be direct.

For base burning and slow combustion stoves, for offices,



stores, and for upper floors in private dwellings, and, in short, for all circumstances where the utilization of heat is a desideratum, this device is intended. It is constructed on scientific principles, and calculated for saving fuel and trouble. It was patented June 11, 1868, by J. A. Lakin, who may be addressed for state rights or for additional information at Thompsonville, Conn.

BRIODAY'S IMPROVED ARTIFICIAL LEG.

The results of the late war have made unusual demands on the resources of surgical art in providing substitutes for natural limbs, and mechanical talent has been largely employed in manufacturing and improving these appliances. Yet with the best mechanical skill, we fall short of providing a perfect substitute for the natural limb. Every improvement, however, in these necessary aids to mutilated humanity should be welcomed and encouraged. That shown in the accompanying engravings claims to be superior to others now manufactured for the same purpose. It is the invention of B. Brioday of Detroit, Mich., to whom patents were granted, May 19th and 27th, 1868.

The device is intended as a substitute for the human foot and leg below the knee, and is believed to be simpler in construction, less in cost, and easier in operation than others in use. Fig. 1, is a sectional elevation, and Fig. 2, a plan view, of the foot with the leg portion removed at the ankle joint, and the foot partially broken away to show the mechanism of the toe joint. The pintle or centre of the joint is secured to the foot by means of two bolts, A, the nuts of which are seated in a recess, and with washers bear against rubber glands or flanges, B, or washers of some other yielding substance. From the same centre or pintle, rods, C, extend upward through the solid part of the leg, and are secured by nut, washer, and yielding cushion as are the bolts, A. Between the lower end of the leg and the bottom of the receiving recess in the foot are thick rubber springs, D, on either side of the hinge joint.

The part representing the toes is joined to the foot in a similar manner, except that the rubber spring or buffer, E, is placed above the joint. The nature of the connections is plainly shown in the engravings. The contiguous parts of

the joints are curved to permit free movement. The bottom of the foot may be covered with canvas, leather, or any other tough elastic substance, and the opening of the toe joint may be similarly defended, the coating serving to prevent the ingress of dirt and the too free action of the joint, which might throw the toe of the foot beyond the horizontal line, as it is raised from the ground in the act of walking. The rubber springs between the leg and foot are arranged to hold the two parts together at about right angles, but to yield in

Fig. 1

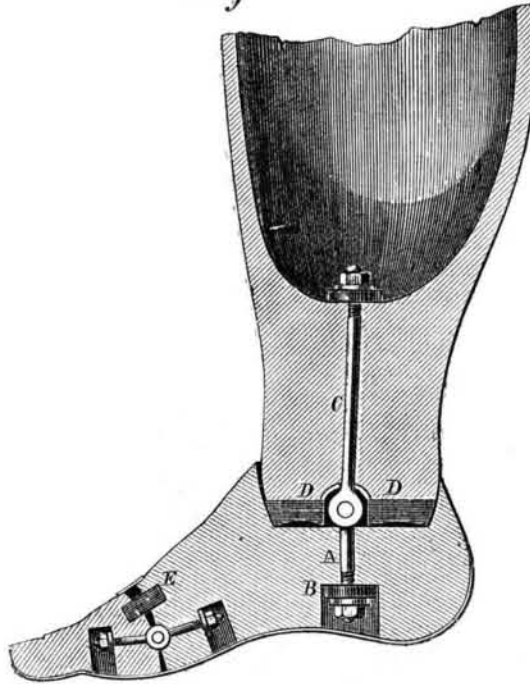
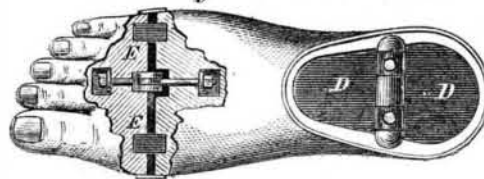


Fig. 2



either direction in the act of walking. A semicircular steel spring is interposed between the ankle joint and the lower end of the ankle, the ends of which bear upon the upper faces of the rubber to overcome and compensate for any wear or looseness in the joints of the straps or bolts, so that when the foot is taken up or set down no shock shall be felt, the spring pressing the parts away from each other when raised, and yielding when the foot comes in contact with the ground. The yielding washers or packings of rubber allow a slight lateral motion when walking over rough ground.

The whole patent, or State rights, may be obtained by addressing the patentee, B. Brioday, at Detroit, Mich.

Correspondence.

The Editors are not responsible for the opinions expressed by their correspondents

The Diamond Point Tool.

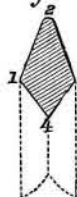
MESSRS. EDITORS:—No apology is deemed necessary for offering an article on this important tool. When properly made there is no tool more satisfactory, but in practice it is quite exceptional to find a good one. Hence it is to be inferred that the principles of its action are not completely understood by all turners and tool dressers.

To begin at the beginning, the tool should have the proper inclination forward for the lathe, and the work on which it is to be used, a tool for a light lathe and for small work requiring more inclination than one for a heavy lathe and large work, and a planer tool but little inclination. These points, however, are commonly observed.

The next thing is to put the cutting side in its proper angular position. Fig. 1, is a horizontal section near the point of a good tool in cutting position, and Fig. 2, likewise of a bad one. The tools are supposed to be for feeding to the left, in the ordinary way. The corner 1, is the leading corner; 2, is the cutting corner; 3, the following corner; and 4, the back corner. 1, 2, is the cutting side.

Fig. 1

Fig. 2



Now in forging the tool the cutting side should be made to stand at a small angle with a horizontal line in the direction of the crossfeed, as in Fig. 1, not a large one as in Fig. 2. In other words, its position must be a little removed from that of the edge of a straight side tool, but there must be some angle, otherwise the tool ceases to be a diamond point, and becomes a half diamond, and must be inclined to the left to give it clearance. A true diamond point should not be so inclined, but only forward. Thus, it appears, that the cross section of the part drawn out to form the tool, should be a rhombus or diamond, and not a rectangle or square, in order that the cutting side may not form too great an angle with the transverse line.

The reason why a small instead of a great angle is required,

becomes obvious thus: In setting the tool, the point must be elevated to such a height as will give it the proper clearance. The clearance of the pointed and the clearance of the cutting side are two things, and the tool must be so formed that the cutting side will have its proper clearance when the point is elevated to the right height.

The shape must be such that the clearance of side and point will coincide in one position. When the angle of the cutting side is too great, the elevation of the tool affects too much the clearance of the cutting side. If it was made with no angle, but straight like a side tool, it is plain the elevation would not affect the clearance of the side at all, but only that of the point. The final adjustment is made by turning the tool in the tool-post to the right or left from a straight position.

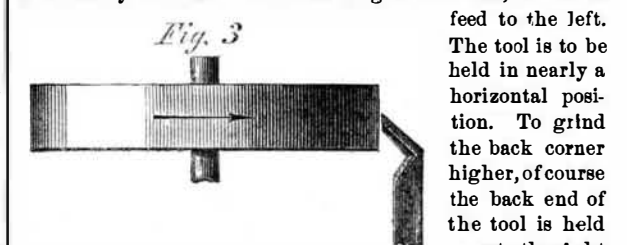
The tool being forged it must be properly ground. The diamond point is a wedge for separating two portions of metal. Of course a thin wedge operates easier than a thick or blunt one. There is less disturbance of the molecules of the metal removed in the chip, consequently less heat, and the tool is not thereby burned away. It is not uncommon for a good tool to stand a whole day in turning wrought iron with a heavy chip and fast speed, without sharpening, except with an oil stone, in position, and making continuous spiral chips to the last.

As this wedge is a powerful one, there a tendency of the tool to move forward in the direction of the feed, which is performed with little power, so that the tool is liable, with improper management, to spring into the work and break. This is what frightens many workmen from using thin tools, but if properly made and handled, there is no danger in using very thin tools. Some men in attempting to grind a tool thin, grind the back corner low, but this does not make a tool thin, at least, not thin to any useful purpose. It makes the point slender and weak, so that it breaks off; then they are disgusted.

It is the following corner (marked 3 in the cut) which must be ground low to make a good thin tool.

In a planer tool, the back corner and necessarily the leading corner, should be left high compared with the cutting corner, to prevent the tool springing down into the work, and also to strengthen the point. In a lathe tool the leading and back corners may be ground somewhat lower. If left sufficiently high, the tool will make left hand spiral chips. It is best to grind these corners low enough to make straight or right hand spiral chips. In all cases the following corner should be ground low.

To grind a diamond point properly and easily, it is well to know the best place on the grind stone to apply it. The place recommended for grinding a tool according to these principles is shown by the cut. This is for a right hand tool, or one to



I think any one who tries it will agree that this part of the grindstone peculiarly facilitates giving the form to the tool which has been recommended. The ugliest ground tool is here speedily brought into comely form. H. W. P. Newark, N. J.

Connecting Shafts by Pitmans.

MESSRS. EDITORS:—The learned Mr. Caxton, upon returning to his home and finding that his wife had given the name of Pisistratus to his son, exclaimed in tones of horror, "Good heavens, madam, you have made me a father of an anachronism!" Your correspondent from Delaware City, Del., whose communication appears on page 20, current volume, will probably find himself struck with similar horror when he finds himself the father of an absurdity.

To say that he succeeded in making a device work which could not by any possibility work, certainly entitles him to the credit of doing more than lies within the power of ordinary mortals. His device involves the absurdity that the hypotenuse of a right-angled triangle is equal to the altitude. To prove this I subjoin his drawing, having placed thereon the figure, A B C D E F G. The distance from A to D is equal to the distance from G to F. When the cranks have made a quarter revolution they would stand at the points, G and F, the pitman would then be on the line, A G, and its length, measuring from the centers of the crank pins, would be equal to G F. Its half, B C, would then be equal to the half of G F, which is equal to A C. Hence, to suppose rotation possible in such a contrivance is to suppose the absurdity that the hypotenuse, B C, of the right-angled triangle, A B C, is equal to its altitude, A C. All the motion that such a contrivance could possess would be the play consequent upon imperfect fitting. ABERDEEN.

Providence, R. I.

The Planchette.

MESSRS. EDITORS:—In your article on this interesting little instrument, it is stated that "makers claim that the wood

used in their manufacture is peculiar; and "in the center of the board we have occasionally seen a disk, having the appearance of German silver, but whether for use or ornament we are not informed." Some experiments I witnessed on the 4th will show that no peculiarity of wood is required, and that the disk of metal was, as you conjectured, for ornament.

The Planchette was made by my brother, of fine wood, the board of heart shape, and in size about 7x7 inches by $\frac{1}{4}$ inch thick. The supports were a piece of lead pencil and two round, fine legs, about the diameter of a pencil, and $2\frac{1}{2}$ inches long, rounded and smooth at the base. Such a one can be easily made by any one who can handle a jack-knife. And as they are so easily made, it might be well to know whether it is patented.

One surprising feature in its operations is the smoothness with which it moves. There is no perceptible jerking or tremor about it, while a person compelling it to make figures finds it difficult to make circles or curves without having them full of angles.

From the time the hands were first applied it was about fifteen minutes before it moved, after which I noticed that at times all hands were withdrawn for a second, but when two hands (it would not move with but one hand) were applied, it would again instantly move off, as though it were charged with a power which only required certain connections to put it in motion.

Another fact which seems to indicate that the will has but little control over its operations was, that when all desired it to write it persisted in wild scribbling. It must, however, be acknowledged a good writer when it does attempt it.

H. ANDERSON.

Peekskill, N. Y., July 6, 1868.

Origin of Planchette.

MESSRS. EDITORS:—I observe an article in your paper entitled "What is Planchette?" It will cost you very little trouble to ascertain the birthplace and origin of Planchette, and you may even put your finger on the author of its being. I would send you the documents and the exact date if I had access at present to my library; but you can easily verify my statements. The fact is, Planchette was originally a purely imaginary affair and a mere literary creation, made entirely, wood, wheels, and pencil, by the author's own pen (not his hands), out of his own head. In one of the back numbers of *Every Saturday* you will find an article, copied from an English magazine, written after the manner of Swift's Gulliver or De Foe's Robinson Crusoe, giving the very first true and original account of Planchette. The author of that article created Planchette, and baptised her, and invented all her remarkable qualities. He begins his essay with a pretended dialogue, in which an American gentleman asks his English friend to come and see Planchette, which he explains to be a little instrument in extensive use, as a sort of oracle, in New York, Philadelphia, and elsewhere in the United States. Then follows a description of the instrument and a drawing, with an elaborate account of the wonders it performed. Remember, Messrs. Editors, that when this article was written no such thing as Planchette, neither the name nor the instrument, had ever been used or heard of anywhere in America. This is a key to the article which was merely intended as an imaginative essay, or, to say the worst, a hoax on the English public. I am certain the writer would be indignant if any one should accuse him of having intended to state facts, when he was so obviously producing an ingenious work of fiction. I said, at the time the article appeared here, that some simple-minded people, especially those whose native simplicity took a spiritual turn, would not see the point of the hoax, and we should soon have Planchettes in abundance. A few months afterward, an enterprising gentleman in New York—a stationer, I think—advertised the first Planchettes ever seen in America. The literary gentleman who, with the view of writing a sensation magazine article, imagined Planchette and all her wonders, must be surprised to find her in actual existence, for sale at all stationers' in England and America, for he never dreamed that we, who could detect at once the fallacy of his opening statement, could possibly be taken in and hoaxed on this side of the water. He had placed the birthplace of Planchette in America, where it had never been heard of, merely to gull the English public. Here you have the beginning of Planchette—a mere hoax or literary invention; and it may help you to prophesy the end, or at least to guess "What is Planchette?" and who are her "reliable" disciples.

M. W.

The Mysteries of Planchette.

MESSRS. EDITORS:—Your article entitled "Planchette" has attracted my attention by its candor and evident fairness of intention—qualities rarely exhibited by the press when referring to this or cognate subjects.

Wonderful as are the phenomena termed spirit manifestations, no one, nor all of them, have seemed to me so strange as does the course of our scientific and religious people in relation to this matter. If they do occur, as claimed, they are outside of, and beyond the present known laws of nature, and, I think, demand the most careful scrutiny of that class which claim preëminence in knowledge. It they do not occur—if thousands upon thousands of otherwise intelligent people are the dupes of cunning imposters or the victims of wild hallucinations, it surely is the imperative duty of those to whom the religious culture of the people is confided to seek to discover the source of this delusion, and thus rescue these misguided ones from the effects of their folly.

Neither ridicule on the one hand nor denunciation on the other has checked the manifestations nor lessened the number of believers in their spiritual origin. Is it not time,

then, that fanaticism and bigotry were laid aside and common sense employed in the consideration of this subject?

If Planchette does move without voluntary action by the persons whose hands may be upon it; if, in thus moving, it writes words or sentences which are appropriate answers to mental questions; if questions resting in the minds of a spectator, *unspoken*, are correctly responded to through the instrumentality of this little toy; if, as recently occurred in Baltimore, the sudden death of a gentleman in a distant city is announced through Planchette in the evening and confirmed by telegraph next morning, then no question can be raised of guess-work or the law of chances; but at once the reflective mind asks, Whence comes the intelligence controlling Planchette?

If intelligence floated loosely about through the atmosphere, we might fairly suppose, in accordance with the theories of some of our scientific friends, that electricity would, occasionally, catch up a word that would be *apropos*, and transmit it to the wonder-seeking admirers of this little instrument; but even our most profound scientists have not yet claimed to have discovered that property of the mind known as intelligence in a state of independent detachment. It is always the emanation of some organized form. The only question that remains is, whether the intelligence thus manifested comes from some mind clothed in the physical form or from some disembodied spirit. Some man or woman who, having passed from the external world, still lives in the interior or invisible spheres, and has discovered the action of a law of nature, through which he or she can control the nervous or muscular system of the operator and write through Planchette.

If man does live in a world unseen by mortal eyes, after his pilgrimage on earth is ended, is it not rational to suppose that he preserves his identity; that he is, indeed, the same man, minus his external covering of flesh; that he possesses the same intellectual faculties and the same desire to exercise them that he did when in the physical form? Would Benjamin Franklin, for instance, be content in any description of heaven where his great powers of thought were repressed; where he could no longer make research into the laws and agencies by which God manifests himself in nature? Would Franklin be satisfied with an eternity of any form of praise to the Almighty which would preclude him from following up that initial experiment when the kite and the key were the only instruments he required to bring God's lightnings from the heavens? If Franklin is now living in the interior, or world of causes, is it rational to suppose that he has been surpassed in electrical science by his pupils who still dwell in the world of effects? Can we doubt, while Morse has been teaching men to make the electric fluid eloquent with messages of love and wisdom, as it traverses the material wires of our earth, that Franklin also has been experimenting with those subtler and more ethereal forms of matter pertaining to the invisible spheres? If Morse has taught men to play upon the telegraphic machine, and thus communicate with his fellow-man on the other side of the globe, is it irrational to suppose that Franklin, Morse's gifted master, with his superior advantages, has been able to teach the spirits of men to seize the electric currents and play upon that more delicate instrument, the human brain?

If the physically embodied or mortal man is compelled to throw his thought upon the fibers of the brain to be transmitted thence along the nervous chords to the organs of speech before it can find oral expression, or to the extremities of his fingers in order that it may be transcribed upon paper, is it unreasonable to suppose that disembodied men, or spirits, should seek to acquire knowledge of the law by which thought is thus transmitted, and take pleasure in its exercise?

I have been unable to perceive what there is in such an hypothesis to excite ridicule or justify denunciation. If it is correct, what a glorious field of discovery does it not open to the progressive human mind? If it is erroneous, still is it not worthy of the careful consideration of the most exalted intellect?

I had intended referring, in this article, to one or two incidents which have occurred in my presence, demonstrating the theory here presented, but fear to become too much extended for your columns.

WASH. A. DANSKIN.

Baltimore, Md.

Editorial Summary.

A RACE ANTERIOR TO OUR OWN—The late Sir David Brewster, in his very interesting work entitled "More Worlds than One," in discussing the geological condition of the earth, inquires, "But who can tell what sleeps beyond? If we have followed the omnipotent arm into the infinity of space, may we not trace it under our feet in remoter times, and in deeper cemeteries? Another creation may lie beneath the earth's granite pavements—more glorious creatures may be entombed there. The mortal coils of beings more lovely, more pure, more divine, than man, may yet read to us the humbling lesson that we have not been the first, and may not be the last of an intellectual race."

THE Underground Railroad in London is set down as a success. The cost of construction, including the purchase of property, amounted to \$2,500,000 per mile. First and second class cars are run every four minutes. The locomotives consume their own smoke, and it is estimated that 200,000 people pass daily through the line. The work is being extended, and before many months tunnels will be completed under the Thames, so as to connect the two sections of the city. It is reported that the frequent passing of heavy trains jars the buildings, and fears are being entertained for their safety.

This is very likely. The promoters of the proposed underground railroad of New York must necessarily show a good deal of pluck and endurance before they can complete their work.

SMALL-ARMS FACTORY, ENFIELD.—The accounts for the financial year 1866-67 show that there were fabricated that year at Enfield, and sent into store, 17,996 cavalry carbines, Richards' patent breech-loading; 8,160 muskets, smooth bore, with bayonets; 2,480 fusils ditto; 85,033 musket rifles, pattern '53, converted to breech-loaders on Snider's system; 10,012 short rifles, also converted, and 4,998 naval rifles ditto. The value or cost of the small arms and implements for small arms sent into store from Enfield in the year is estimated according to several modes of computation; by the lowest it is £187,921, and by the highest £206,420.

NORTON'S STAMP ERASER.—The *Troy Times* denies the story that Marcus P. Norton, of that city, has been awarded the sum of \$250,000 for the use of his Post Office stamp. It says that not a single dollar has been voted by Congress for that purpose, and that it is not probable any appropriation ever will be made for it. We thought the story was false, and so stated in our last number.

POTH'S PATENT WHEEL HUB.—In the description of this device on page 40, current volume, we omitted to state that the threads on the two, different portions of the sleeve are of different pitch, making what is known among mechanics as the "differential screw," an application of which may be found on page 2, Vol. XV., SCIENTIFIC AMERICAN. The device is one of the strongest grips between two opposing surfaces yet discovered in mechanics.

It is stated that on the morning of July 15, at 2 o'clock, Prof. Retus, of Litchfield Observatory, Hamilton College, Clinton, N. Y., discovered another asteroid, which makes 100 now discovered. It had the appearance of a star of the 11th magnitude, and its position was 21 hours, 9 minutes, and 10 seconds in the right ascension of 16 deg. and 4 min. south declination, with retrograde southern daily motion of about 36 seconds of time and 6 minutes in arc respectively.

WE regret to announce the sudden death of Joseph T. Bodley, of the well-known firm of Lane & Bodley, iron founders and engine builders, Cincinnati, Ohio.

THE VALUE OF A CAVEAT.

The following decision of Judge Fisher will be read with interest, as showing that a properly prepared caveat may at any time be adduced as evidence of priority of invention:

SUPREME COURT OF THE DISTRICT OF COLUMBIA. Before Justice George P. Fisher. In the matter of the interference between the application of A. Barbin and of Scharit, Lyman, and Hudson for patent for improved mode of lighting gas. On appeal of Scharit & Co. from the decision of the Commissioner of Patents.

On the 16th day of January, A. D. 1868, Barbin filed in the Patent Office a caveat stating the design and purpose of his improvement in lighting gas, and his principal and distinguishing characteristics, in conformity with the provisions of section 12 of the act of Congress approved July 4, 1836, and praying protection of his rights till he might mature his invention. This caveat described the same invention for which a patent was prayed by Scharit & Co. in their application filed in the Patent Office on the 31st day of March, 1867; and under the provisions of the section above mentioned, notice was given to Barbin on the 10th of July, and action on the application of Scharit & Co. was suspended. Barbin did not file his description, specifications, drawings, and model within the time prescribed in said twelfth section, to enable him to "avail himself of the benefit of his caveat" that is to say, in time to save him as the discoverer of the invention from the operation of the rule of law which awards to the inventor who first adapts his invention to practical use, the right to the grant of a patent, which is preserved office of a caveat; but he did file his application, with description, specifications, etc., on the 14th day of November, pending the consideration of the application of Scharit & Co.

On the coming in of Barbin's application, the Commissioner of Patents declared an interference, as he would have had the right to do, and, indeed, it would have been his duty to do even if no caveat had been filed by Barbin, and even if, also, a patent had been issued to Scharit & Co. There is no objection on their part, and could be none as to the propriety of the declaration of interference. Ten days before the day first set for the hearing of the case upon the interference, viz., on the 27th of April, 1867, Barbin notified Scharit & Co. that the caveat which he had filed had not the veil of secrecy lifted from it, and was open to their inspection, and that the same would be produced in evidence to support the claim of Barbin as prior inventor; and the receipt of notice was acknowledged by Scharit & Co.

Mr. Scharit was present at the hearing, and objected to this evidence—that it had not been put in at the proper time—but the Examiners held to the contrary, that it was within the time limited by the rules of the Office, and decided that it was conclusive and satisfactory evidence, showing Barbin to have been the prior inventor. An appeal was taken by Scharit & Co. from the Commissioner of Patents, who affirmed the decision of the Board of Examiners.

From that decision an appeal is taken to me. The reasons of appeal are as follows:

1st, That said Commissioner of Patents held that the caveat filed by Barbin could be received and considered as evidence of invention at the time of its filing, without other proof; whereas the said caveat having failed to perfect his invention and file his application within the time limited by law, after receiving notice pursuant to the statute to do so, had lost and forfeited his right to use said caveat as evidence of invention, and he must, as other parties in interference, rely upon evidence *alibi* for proving priority of invention.

2d, Because priority of invention was awarded to said Barbin contrary to law and the proof.

These reasons of appeal raise two questions for my consideration, viz.:

1st, Was the caveat admissible in evidence for the purpose of proving Barbin to have been the prior inventor?

2d, Was it overbalanced by countervailing testimony admitting it to be proper evidence of priority?

It is argued as an objection to the admissibility of the caveat itself, that the rules of the Patent Office require that when a party relies upon a caveat to establish the date of his invention, a certified copy thereof must be filed in evidence, with due notice to the opposite party, as no notice will be taken by the Office of a caveat filed in its secret archives. Now the object of this rule is expressed on the face of it. It means to say that because a caveat is in the secret archives, where the law requires it to be "preserved in secrecy," and the Commissioner cannot, of his own motion, remove the veil of secrecy so as to acquaint the adverse party of that which is within its seals, therefore, if the caveat when placed in interference shall desire to use what is shown as evidence for his claim, he shall himself break open the seal and let his opponents know what he relies upon within it. This may be as well, if not better accomplished, by opening the original, and filing it as evidence in the case. The object of the rule is simply to give the other side an opportunity to inspect the evidence, and to prevent his being taken by surprise by having it suddenly sprung upon him, as he is supposed to know nothing of its contents. Until its secrecy was withdrawn it was a confidential record of the Office; but as soon as its seal was broken by the caveat, it became a public record which the appellants were entitled to inspect, and they could not be surprised by its production in evidence any more than if they had been served with a copy. The rule is substantially complied with, whether the caveat be opened and filed as a public record or a mere copy of it be filed. The rule does not require the copy to be served on the adverse party or his attorney, but simply that it be filed in evidence, and notice thereof given to the opposite party, and that because no notice can be taken by the Office of a caveat filed in its secret archives. But when it is transferred from the secret archives to the public record or public files, and notice is given to the opposite party, the reason of the rule is ended, and the maxim, "*cessante ratione cessat lex*," is applicable.

I apprehend no well informed judge or court would think of holding that a copy of one of its own records was of a better character than the original record itself. I have therefore no hesitation in deciding that the original caveat was properly admitted in evidence.

As to the second question, as I find no testimony in the papers forwarded from the Patent Office except the caveat, I assume it to be true as stated by the Examiners in their decision, that the caveat was the only testimony in the case. Of course, therefore, it was conclusive of the issue joined between the parties. The decision of the Commissioner is therefore affirmed, and it is ordered that the patent issue to A. Barbin.