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TESTIMONY

IN

THE MATTER OF THE APPLICATION

OF

B. FRANK. PALMER

FOR THE

EXTENSION OF HIS PATENT

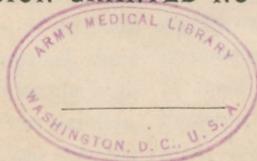
FOR AN

ARTIFICIAL LEG.

READ BEFORE THE HON. COMMISSIONER OF PATENTS

OCTOBER 22, 1860.

EXTENSION GRANTED NOV. 3, 1860.



PHILADELPHIA:

C. SHERMAN & SON, PRINTERS.

1862.

TESTIMONY

B. FRAZER PAMMER

EXHIBIT OF HIS PATENT

ARTIFICIAL LEGS

EXHIBIT GRANTED NOV 2 1863

DEPOSITED

IN THE OFFICE OF THE SECRETARY OF WAR

JUL 12 1950

B. Frank. Palmer to the Commissioner of Patents.

HON. PHILIP F. THOMAS,
Commissioner of Patents.

SIR :

My experiments on the artificial leg were commenced in the year 1836, two years subsequent to the loss of a natural leg, and though not steadily pursued, engrossed a considerable portion of my time during each succeeding year until 1846, when my first patent was obtained.

Previously to completing my invention, I purchased the best artificial leg then known (the "Anglesey Leg,") which, in the absence of a better, would be regarded as invaluable; nevertheless, its imperfections, as it appeared to me at the first glance, caused me to pursue my favorite study with renewed vigor and redoubled industry. I believed that a leg might be made more natural in appearance and motion, more comfortable and useful.

From November, 1845, to the time of making application for my patent in May, 1846, my time was wholly devoted to the invention.

It may not be amiss to state, in passing, that, at the time I completed this invention, the manufacture of artificial limbs was but little understood, there being in the country but a single individual of the least note in the business.

This artisan informed me (in the year 1845,) that he had been in the country ten years, and had made about one hundred legs, in all that time, for which he had received less than \$10,000, I judge, his *entire receipts* in the ten years being little more than *half of*

my average expenditures annually, for the last five years. Thus, it will be seen, the business was in its infancy.

I obtained in a few days, while waiting for a limb to be made for myself, as much information, perhaps, as was obtainable from the best leg-maker then known. With no disrespect for him, I mention these facts to indicate the laborious process by which I had to surmount great difficulties and obstacles in the track of my invention.

Not a line in print was to be found on the subject, and the best model of an artificial leg was a simple tenon and mortice-jointed appliance, which, being palpably unnatural in appearance and movement, was equally unartistic in design and construction. All the information to be gained from previous mechanics seemed to be only negative and disparaging. Thus the research became laborious, and experiments tedious.

When patented, the invention had to pass the ordeal of scientific as well as surgical test, and so chary of their opinions are eminent men, that such an invention must always be most rigidly examined before an award can be obtained, which is of eminent value. It must be compared with the best known *abroad*, and that often involves great delay. I expended a considerable amount of money, and devoted much time to these exhibitions before scientific societies in the various cities. It became necessary to make numerous perfect *models*, to present to leading surgeons, noted institutions and societies,

and to attend personally and by representative, the Annual Exhibitions and Fairs in the various cities.

This was attended with great loss of time, and a degree of expense which, during the first few years, the profits of sales would scarcely justify.

"The Committee on Science and the Arts" of the Franklin Institute, Philadelphia, had the invention under investigation from May, 1846, to January, 1850, when they unanimously reported that it was deserving of the highest prize, and awarded the "Scott Legacy Medal," bearing the inscription, "*To the most deserving.*"

The invention has been exhibited at nearly all of the Fairs in the country since 1846, including the International Exhibition in New York, at all of which gold and silver medals have been awarded. I attended the Great Exhibition in London, in 1851, being absent from home seven months, subject to great expense, and great temporary loss in business, while absent from my business in my own country.

I have employed, from the commencement, the best mechanics, *under my own supervision*. Such men always command high salaries when retained permanently.

I have expended a large amount of money in devising and constructing *machinery*, and experimenting, in the hope of making the limb more economically. I have also taken two additional patents at considerable expense.

Commencing the business at the age of twenty-two, in a remote country village, I need not, I think, add that it was difficult to make much progress for several years, and the amount I have received from the sale of an interest in

the patent is quite inconsiderable. I have never urged the sale of rights, believing that I could personally conduct the *manufacture* more acceptably to the patient, if less profitably to myself. I may be allowed to repeat, that I have expended large sums of money, and a considerable portion of my time, in the improvement of my facilities for making the limbs more perfectly, and with the hope of being able to afford limbs of the best construction at the lowest possible price, to those who are so doubly unfortunate as to lack both limb and money. This is by far the most numerous class of the mutilated.

I am at the present time building and furnishing a house, at an expense of \$25,000, which will combine every convenience for my patients, and every facility for the mechanics.

I employ about twenty assistants in the business. I have expended many thousands of dollars in establishing the profession on a respectable basis, and on an *extensive scale*, a great portion of which means might properly have been saved, if I had not felt assured that the extension of the patent would be granted.

Without further comment, I will proceed to give an account of the manufacture and sale of the Patent Leg, feeling quite willing to submit the whole matter to the Commissioner of Patents, who will not fail to recognize the insufficiency of the remuneration I have received for my inventive and mechanical *labors*, to say nothing of their value to the public.

Respectfully submitted,

B. FRANK. PALMER.

PHILA., Aug. 9th, 1860.

(PATENT EXTENDED, NOV. 3, 1860.)

BEFORE THE COMMISSIONER OF PATENTS.

IN THE MATTER OF THE APPLICATION OF B. FRANK. PALMER, OF THE CITY OF PHILADELPHIA, IN THE STATE OF PENNSYLVANIA, FOR AN EXTENSION OF PATENT, FOR AN IMPROVEMENT IN ARTIFICIAL LEGS, DATED NOVEMBER 4, 1846.

Depositions of witnesses, taken, sworn or affirmed, before J. O. Tobias, a Commissioner appointed by the District Court for the City and County of Philadelphia, in the State of Pennsylvania, authorized and empowered by the laws of said State, to administer oaths, affirmations, &c., at his office, No. 138 South Sixth Street, on Monday, the 10th day of September, A. D. 1860, to be read before the Commissioner of Patents of the United States, in the matter of the application of B. F. Palmer, for an extension of patent for an improvement in Artificial Legs.

CHARLES F. STANSBURY, ESQ., appearing as counsel for B. Frank. Palmer.

RICHARD CLEMENT, being duly sworn, doth depose and say, in answer to interrogatories propounded to him by Charles F. Stansbury, as follows :

Question. What is your name, residence, and occupation ?

Answer. My name is Richard Clement. I reside at No. 109 South 13th Street, and am an artificial limb maker.

Question. Do you know B. F. Palmer, the applicant for this extension ? if yea, how long have you known him, and when and where did your acquaintance begin ?

Answer. I do know him, and I have known him for some sixteen or seventeen years. My acquaintance first began with Mr. Palmer at Meredith Bridge, New Hampshire, now called Laconia.*

Question. State fully what you know in reference to the invention of the artificial leg, and its commencement.

Answer. In the year 1845, Mr. Palmer got a limb from New York for his own use. He said he thought he could make a better one ; he would try, at any rate, to do so ; he selected his timber from the Willow tree. I dressed

it out for him in proper shape for seasoning. He then commenced making the limb. I think it was completed in April or May, 1846. As soon as it was completed, he took it to Washington, to the National Fair, to exhibit it. He exhibited a small model after the same pattern as the leg he was wearing at the time. The leg operated very finely. It worked much better than the leg he got from New York ;* every person seemed to remark that he walked much easier ; it was much praised by physicians. As soon as he returned from Washington, which was in June 1846, he received an order for a leg ; he then immediately commenced manufacturing. His facilities for manufacturing were very limited indeed. The legs made the first year were made *entirely by Mr. Palmer*, except the joints, which I assisted him in.

Question. How long did Mr. Palmer carry on the manufacture at Meredith ?

Answer. I think he carried it on from 1846 to 1849, when he left for Springfield, Massachusetts. The men that were with him at Meredith, went with

* Mr. P. was then a law student.

* The Anglesey leg.

him to Springfield. Mr. Palmer bought a house in Springfield, and expended considerable money in repairing it and building an office. About a year after, Mr. Palmer removed to Philadelphia, and I came with him. I think a very good business was done at Springfield. When we came here first, there was only myself at work; in two or three months, we added one new hand, and we worked in one small room; then we added another hand, and added another room to the workshop. The business steadily increased; we added men as it increased; *we had to extend the building further*, and add another large room. Mr. Palmer has got up a great deal of machinery expressly for the purpose of manufacturing different parts of the leg. He has expended a large amount of money in experimenting in machinery. Mr. Palmer is very particular about the workmanship. I have known him to throw aside a great deal of work which had been commenced, and I have also known him to have limbs frequently made over after being entirely finished. I have known quite a number of legs to have been given away. I have known others to have been sold for cost, and less than cost.

Mr. Palmer is getting up a large establishment on Chestnut Street, above Sixteenth. When it is finished, it will be a very complete establishment. The leg has given general satisfaction; it has been considered the best leg that is manufactured in this country or any other.

RICHARD CLEMENT.

Certified by J. O. TOBIAS,
Commissioner.

EDWIN OSBORNE, being duly sworn, doth depose and say, in answer to the interrogatories, as follows:

My name is Edwin Osborne; I reside at No. 1320 Chestnut Street, and am a surgeon-artist. My first knowledge of it (the Palmer leg), was at the Mechanics' Fair, in Boston, in 1847. My attention was called to it on account of my *brother having lost his leg*, and being at that time in search of the best of plans for remedying the loss. In November, 1847, my brother procured one from Mr. Palmer, which was the first I saw of the operation; it operated to our entire satisfaction. About that time I was in search of permanent business. Mr. Palmer made me an offer, through my brother, which I accepted. I went into the business in December, 1847, at Meredith Bridge. At the time I commenced, the business was conducted on a small scale; it gradually increased, a new workshop was built, with offices attached, for the better accommodation of business, and we continued there until the spring of 1849, when it was removed to Springfield. In May, 1850, Mr. Palmer broke up his personal establishment in Springfield, and came to Philadelphia. Mr. Palmer left in April, 1851, for London, for the purpose of exhibiting his invention at the Great Exhibition.

I left Springfield in August to go to London, to commence the manufacture there.

The leg attracted very great attention there from persons who had lost limbs, and from surgeons and scientific men. It was approved, and the prize medal was awarded. (See reports of the Juries, London Exhibition of 1851, pages 345 and 346.) The LONDON TIMES published a very flattering notice of the invention on September 19, 1851. Similar articles appeared in the London Morning Chronicle, August 15, 1851;

Illustrated London News, August 23, 1851; London Art Journal, August, 1851; United Service Gazette, and in other papers throughout the country. Some of these papers I annex, and make part of my deposition, marked (British Press.)

The Philadelphia Establishment is situated at No. 1320* Chestnut Street, and there are employed, on an average, about fifteen persons; their compensation varies from six hundred dollars to twelve hundred dollars per annum. During the past three years, new methods of manufacturing have been introduced at great expense for machinery and tools. The quality of the workmanship of the leg is greatly superior to what it ever has been before. This expense in the machinery was entered into for the purpose of reducing the cost if possible, and to add to the durability of the mechanism, thereby reducing the expense of repairs, &c., to the patients. The highest perfection of workmanship is absolutely necessary, in order that the full benefit of the invention may be received; no expense has been spared to insure this result.

The price is one hundred and fifty dollars for a limb; from this, however, great reductions are often made to favor the poor and unfortunate. I never knew a person to be turned away (who was deserving) for want of means.

The Patent of November fourth, 1846, was the foundation of the business, and is so still; subsequent to that a patent for the arrangement of the tendons and springs was added, and a third patent for still further modification of the tendons. All these inventions are now in use, and have been ever since they have been patented, and have

added greatly to the value of the mechanism. Expensive experiments are continually carried on for the purpose of improving the efficiency of the appliances. None but the best workmen have ever been employed permanently. Many have been introduced who were poor workmen, which caused great loss.

Mr. Palmer is now engaged in preparing an establishment, or manufactory, at great cost, for the purpose of extending the benefits of the invention, and arriving at still greater perfection in the manufacture. The establishment will be perfect in its accommodations for patients, and the only one of its kind in the country, or in the world; it will have all the conveniences for manufacturing from the beginning to the ending.

I have personally superintended the manufacturing of a large number of the legs that have been made, both in this country and in Europe, and know that the satisfaction given is far beyond that of any other appliance; almost every leg that has ever been made, of a different kind, has been, in many instances, thrown aside and replaced by this. Although the manufacture has been discontinued in Europe, patients residing there still send to this establishment rather than employ the aid that might be procured there.

We constantly receive letters of the most gratifying character from patients in all parts of the world, expressing their gratification for benefits received. A number of these letters are appended, and form a part of my deposition, marked A, B, C, D, E, F, G, H, I, J, K, L, M. Various surgeons, in different parts of the world, have expressed to me their opinion of the great value of the invention to the unfortunate. I

* Now 1609.

will name Professor Syme, of Edinburgh; Mr. Ferguson, of King's College, London; Mr. Turner, F.R.C.S., of Kensington, whose wife wears one of these limbs; Mons. Deboat, of Paris, Editor of the *Therapeutic Journal*; Mons. Houzelot, Surgeon-in-Chief of the Hospital at Meaux; Professor Jolliffe Tuffnell, of the Royal College of Surgeons, Dublin; Mr. Paget, of St. Bartholomew's Hospital, and other foreign surgeons, some of whose letters are annexed, marked N, O, P, Q, R, S. The leading surgeons in our own country have expressed, and are constantly expressing similar opinions. These surgeons have given their unequivocal opinion that this substitute is the best that has ever come under their observation. I annex, and make part of my deposition, a number of letters from American surgeons, marked I to 38.

No one that I am aware of has ever disputed Mr. Palmer's right to the invention by lawsuit or an interfering application for a patent.

The awards made for the invention from the different mechanical institutions have been as follows: The great prize medal of the World's Exhibition in London, in 1851. Gold medal of the Connecticut Medical Society, 1856. The American Institute of New York, a silver medal in 1846, and gold medal in 1847. Same in 1850. Spécial award in 1852. Special certificate in 1857. Massachusetts Charitable Mechanic Association, a silver medal in 1847. A gold medal in 1850. For further improvements, a gold medal in 1853. Franklin Institute, Philadelphia, in 1850, awarded the Scott's Legacy medal and premium by the Committee on Science and the Arts, and at the exhibition in 1850 a recall

first premium. In 1852 they made a special report, stating "that the invention still retained its superiority." At the exhibition of 1853 and in every exhibition since, the same report. The Franklin Institute has never given any other award since this leg came before them. At the first and third exhibitions of the Metropolitan Mechanics' Institute, Washington, the leg received the highest medal. At the Maryland Institute of 1852, a gold medal. At the World's Fair in New York, the highest medal, for the best artificial leg. The State Agricultural Society of New York, in 1851, a gold medal was awarded, two silver ones having been previously awarded. The Salem Charitable Mechanics' Association awarded a silver medal, being the highest premium it gives. The Lowell Mechanics' Association gave a gold medal.

In all these Institutes other legs were always on exhibition, but this leg always received the first premium.* I would add that notices have been taken of this invention in the following surgical works, which said notices are annexed, marked 39, 40, 41: Velpeau's *Operative Surgery*, vol. ii, pages 276, 277, 278, 279, and 280. Gross's *System of Surgery*, vol. i, pages 646, 647, 648, and 649. Erichsen's *System of Surgery*, page 86.

I have no interest whatever in the extension of Mr. Palmer's patent.

EDWIN OSBORNE.

Certified by

J. O. TOBIAS,
Commissioner.

DANIEL MOORE, being duly sworn,

* Other awards have been made.

B. F. P.

doth depose and say, in answer to the interrogatories, as follows :

My name is Daniel Moore ; I reside at No. 904 North Seventh Street, in this city, and am engaged as a real estate agent. I have known Mr. Palmer since the fall of 1848. My acquaintance began with him by having his make of leg recommended to me. Dr. Paul B. Goddard said that he thought it was the best leg that he had yet seen. Dr. Goddard was my surgeon. Before adopting Mr. Palmer's leg, I had one made by another person, which I found did not answer the purpose at all ; I made thorough inquiry in relation to getting a limb, and principally through Dr. Goddard's recommendation, I was induced to get Mr. Palmer's leg. I obtained it in the winter of 1848-49 ; I have worn it ever since ; *I have found it to be very serviceable.* When I first put it on, I found it easier than the first leg that I had used. I could walk much better with it, and found it every way more serviceable and comfortable. *I have used it constantly since that time with some slight exceptions when it was undergoing some trifling repairs.*

I am in the habit of walking three miles daily upon it, sometimes considerably more, and *the leg has required but very little repair, and for the last year it has had none. I think it has been more than a year since any person has touched it but myself, and it is in as good walking condition now as it was on the day it was finished.** My leg was amputated about half way between the knee and hip joint. I consider this artificial leg of very great value to me. I took to the crutches for a single day, when the leg was away for repairs, and

* In constant use twelve years.

I felt the loss of it very much. My opinion is, that it is the best I have ever seen, as it enables the wearer to perform work and follow occupations that he could not do with a peg leg or crutches. I have known other persons who have worn Palmer's artificial leg, and they consider it the best that they can get ; there is a friend of mine who has expressed that opinion, and he had tried others, but said this was much superior. The durability and workmanship of Mr. Palmer's leg I consider very superior, as *I have worn the same leg for about twelve years without any material repairs.*

I believe Mr. Palmer has been very diligent, enterprising, attentive, and persevering in his efforts to introduce it to the public. I think he has shown a very great spirit of enterprise in the matter.

DANIEL MOORE.

Certified by

J. O. TOBIAS,
Commissioner.

THOMAS H. LITZENBERG, being duly sworn, doth depose and say, in answer to interrogatories, as follows :

My name is Thomas H. Litzenberg ; I reside in Delaware County, in this State, but my place of business is at No. 1816 Market Street. I am a freight agent. I got acquainted with Mr. Palmer about the year 1855 ; his leg was then introduced to my notice by Dr. Wallace, of Philadelphia. I think it was in December, 1854, that I lost my leg. Dr. Gunkel amputated the limb, assisted by Dr. Wallace, Dr. Rowland, Dr. Hotchskin, Dr. Reeser, and Dr. Ozier. I determined on Mr. Palmer's leg at once, from what Dr. Wallace and Dr. Rowland said in re-

gard to it. Dr. Wallace told me that he had seen a man walking on one of Palmer's legs in the amphitheatre of the Jefferson College, and that it was difficult to tell that the man had lost his leg. After I had worn it a few days and became accustomed to it, I felt that I was able for almost any kind of business, and commenced looking after business again. I have great comfort with the leg. I can walk on smooth surfaces readily without a cane.

My leg was amputated about three inches above the knee. I have used the artificial limb continually since the time I first obtained it; *it has never been repaired at all. It has never required any repairs whatever.** Unless an obstruction is unusually high, I use either leg indifferently in stepping over it. I have no difficulty from the bending of the knee. I can't find words to express my high opinion of the value of this invention to those who are so unfortunate as to lose their limbs. I could not do without it. I could not attend to my business on crutches or on a peg leg with any satisfaction. I think I walk, on an average, about two miles a day. I am on my feet a great deal.

I know of other persons who use these legs, and they express themselves as well satisfied as I am.

Mr. Palmer is very attentive—very prompt; and I know that he has obtained a great many medals from mechanical institutions. I never heard of any leg getting so high a prize as the one of Mr. Palmer's.

THOS. H. LITZENBERG.

Certified by

J. O. TOBIAS,
Commissioner.

* Five years in use.

JOSEPH D. KOUPE, being produced, sworn, and examined, deposes and says, in answer to interrogatories, as follows:

My name is Joseph D. Koup, and I am a telegraph operator and dispatcher on the Reading Railroad. I reside in Pottsville, Schuylkill County, Penna. *I wear two of the Palmer legs.* Both of my limbs have been amputated four inches below the knee, which happened about six years ago. I have used Mr. Palmer's legs ever since.

Dr. Carpenter, of Pottsville, who performed the operation, recommended me to obtain Palmer's legs, but previous to that I had seen samples of Mr. Palmer's legs on persons who wore them, and who seemed to get along remarkably well. Since I have worn them, they have given me every satisfaction, and much more than I expected. *I walk well, and walk probably on an average two miles a day, or more.* I generally walk without a cane; I never use one about the office or the house, although I am constantly on my feet. My limbs have worn remarkably well.

I have had very little repair upon them, and none at all for the last eighteen months.* I have seen samples of different artificial legs, but I *consider Palmer's the best artificial leg that ever was in existence.* The workmanship of the Palmer leg is remarkably good and durable, and in its motion and action of the working of the limb, is the *nearest approach to the natural limb possible*, and also for ease and comfort to the wearer.

Question. State what you know of Mr. Palmer's practice in regard to furnishing the limb to the poor.

Answer. Mr. Palmer's regular price is one hundred and fifty dollars. I was

* Six years in use.

poor, and he furnished me my limbs for one hundred dollars each, and I believe he generally makes that difference.

Question. What is your opinion of the value of the invention?

Answer. I can't tell you. *Money could not pay the value of them to me; if they were taken away from me, you might as well take my life.* Dr. Carpenter told me the other day, that they would be cheap at one thousand dollars apiece.

JOSEPH D. KOUP.

Certified by

J. O. TOBIAS,
Commissioner.

JAMES McELENEX, being produced, sworn, and examined, deposes and says, in answer to interrogatories, as follows:

My name is James McElenex. I reside at Palo Alto, Schuylkill County, Pennsylvania, and am a watchman at a railroad crossing, on the Reading Railroad. *I wear two of the Palmer legs; both of my legs are amputated about two inches below the knee; they were amputated about three years ago, by Dr. Brown, at Port Carbon, Pennsylvania.*

Question. By whose recommendation did you obtain Palmer's limbs, and what has been your experience with them?

Answer. I had seen Joseph Koup, and noticed how well he got on with the legs. I was also recommended by Joseph Laddy, who also wore one of his legs, and by Peter Donohue, who also wore one. *I walk a great deal; I average four or five miles a day, besides that I am always on my feet from early morning till late at night.* I

can walk without a cane. I don't use a cane in the house, but I use one on rough roads. I have used my limbs very hard, but they have lasted remarkably well, with very little repairs. The workmanship is excellent; the leg is light, strong, and comfortable.

Question. What is your opinion of the value of the invention?

Answer. I would not be without them if I had to pay five hundred dollars apiece for them. *I would not be able to earn a living without them.* I can now chop wood, use a pick, a spade, a saw, or do almost anything with them. *I consider the leg the greatest blessing in this world,* to any person who is in need of an artificial leg.

JAMES McELENEX.

Certified by

J. O. TOBIAS,
Commissioner.

JOHN B. WYCKOFF, being produced, sworn, and examined, in answer to interrogatories, deposes as follows:

My name is John B. Wyckoff. I reside at Hightstown, New Jersey, and am a farmer and dealer in grain. I wear one of Palmer's legs. My leg is amputated just below the knee. I had been wearing the Anglesey leg, made by William Selpho, which was then considered the best artificial leg in use. As soon as I was able, I got one of Palmer's legs. I was very much pleased with it, and considered it decidedly preferable to the one I had been wearing. It was lighter, fitted better, and better constructed; it was a more elastic leg, and it imitated the natural leg more in appearance, shape, and movement. I walk a great deal, on an average of at least three or four

miles a day, sometimes more. I am on my feet a good part of the day. I do a great deal more labor than many who have two good legs; my business is laborious, and it requires me to handle bags of grain, which weigh from seventy-five to one hundred and twelve pounds.

I was two years with Mr. Palmer in the capacity of clerk, and I know that he usually made a considerable deduction from his regular charge to poor persons. His regular price was one hundred and fifty dollars.

I have now worn the leg almost constantly for nine years. I consider the invention very valuable.

I have attended the clinics of the Jefferson Medical College, and have heard Professor Thomas D. Mütter and Professor Pancoast recommend it to their class as the best leg ever known. I generally attended the clinics when amputations were to be performed, and on these occasions the models of the legs were exhibited, and Professors Mütter and Pancoast lectured at length upon them before the class. I recollect upon one occasion when Professor Mütter was about amputating a leg, that he called for some ether, and said that he was about to exhibit to the class two great American inventions,—Ether and the Palmer leg.

JOHN B. WYCKOFF.

Certified by

J. O. TOBIAS,
Commissioner.

DR. JOHN S. ROHRER, being produced, sworn, and examined, in answer to interrogatories, deposes as follows:

My name is John S. Rohrer; I reside at No. 1719 Chestnut Street, and am by occupation a surgeon and physi-

cian. I am acquainted with the Palmer leg, and *it is the best contrivance of the kind in existence* as far as my knowledge extends. There are but very few artificial legs that answer any good purpose; *this seems to be the only one that answers the best purpose*; it is a *sine qua non* in the surgical profession; they can't do without it! There are other *contrivances*, but they are throwing them away, and adopting this. It combines lightness, strength, and beauty.

Question. What is the effect of wearing such a limb, as compared with the use of crutches, upon the general health and usefulness of the wearer?

Answer. The crutch has a very injurious effect upon the health of the patient by obstructing the circulation, injuring the nerves, producing sometimes partial paralysis, by distorting the spine and other portions of the trunk, affecting injuriously the circulation and the lungs. All these effects are avoided by the use of the leg, and would be alleviated where they already exist, if not entirely cured by the substitution of the leg.

Question. What is your opinion of the value of the invention to the public?

Answer. I consider it of *immense value to the public*. One of the best evidences of its utility is that *it is sought for all over the world*.

JNO. S. ROHRER, M.D.

Certified by

J. O. TOBIAS,
Commissioner.

City and County of New York, ss.

Deposition of J. M. CARNOCHAN, Professor of Surgery in the New York Medical College, and Surgeon-in-chief

to the Emigrant Hospital at Ward's Island, who being duly sworn, doth depose and say, in answer to interrogatories proposed to him by Charles F. Stansbury, Esq., counsel for said Palmer, as follows :

I am well acquainted with the invention of B. F. Palmer's "Artificial Leg," which has been used by many of my patients for many years past, with the greatest success. I regard it as superior in merit to any other invention for the same purpose, and as of great importance and value to the public.

J. M. CARNOCHAN.

Sworn to, this 13th
day of September,
1860, before me,

HORACE ANDREWS,
Commissioner of Deeds.

ERASMUS D. HUDSON, being duly sworn, doth depose and say, in answer to interrogatories proposed to him, by Charles F. Stansbury, Esq., counsel for said Palmer, as follows :

Interrogatory. What is your name, residence, and occupation ?

Answer. Erasmus D. Hudson ; residence, New York city ; occupation, physician and surgeon.

Interrogatory. Are you cognizant of the account rendered by Mr. Palmer in support of his application for an extension of his patent, so far as that account relates to the business which you have superintended ? And if yea, is that account correct ?

Answer. I am cognizant with it, and, to the best of my knowledge and belief, it is correct.

Interrogatory. Do you know anything of the efforts made by Mr. Palmer to introduce his invention into

public use ? If yea, state what was done to that end.

Answer. *I am familiar with his efforts, and know that they have been great, constant, and expensive, in introducing his appliance to the profession and the medical schools ; in printing and distributing pamphlets on the subject ; in advertising, &c. He presented models to the medical schools, hospitals, and leading surgeons, in great numbers. He also attended exhibitions of various institutes, fairs, &c. ; the World's Fair, in London, and those of most of the Mechanics' Institutes, in this country.*

Interrogatory. Will you state what you know of the manner in which the invention has been appreciated by the Medical Faculty and by the public ?

Answer. It has been appreciated by the Medical Faculty in the general recommendation of it to the mutilated, in preference to all other limbs ; and by the public generally, in the efforts they have made to procure these limbs for the mutilated where they themselves have been unable to pay for them ; and the general substitution of these limbs for limbs of other makers, by those who were able to make the change ; and the general satisfaction and gratification of those who have worn them for years, as expressed to me personally and by correspondence, and as manifested to me by procuring duplicates.

Committees of scientific men, connected with various Institutes of the United States, have invariably reported favorably to the superiority of this invention, and granted the highest awards.

ERASMUS D. HUDSON.

[The following deposition is from D. Meredith Reese, A.M., M.D., LL.D., Ex Vice-President of the American Medical Association; Fellow of the New York Academy of Medicine; formerly Professor of the Theory and Practice of Medicine, Institutes of Surgery, and Medical Jurisprudence; Editor of Cooper's Surgical Dictionary; Vice-President of the American Institute, New York, &c.]

"THE undersigned has been for many years familiar with the artificial limbs invented and manufactured by Dr. B. F. Palmer, of Philadelphia, and with their application to mutilated patients.* He has always preferred them to any of the numerous imitations of them by other manufacturers, all of which he regards as *only* imitations, without any real or practical improvement. For all the purposes of durability, mobility of joint, and surgical adaptation to every natural motion of the limbs, he has witnessed, in actual use, the artificial arms and legs of Dr. Palmer's manufacture, by patients who have worn them for years, while performing the most active locomotion with comfort and without deformity, so that they have been able effectually to overcome and conceal their mutilation, by reason of the perfection with which all the functions of the natural limb have been performed in the actual duties of life.

The undersigned adds his professional opinion, that the invention and improvements of Dr. Palmer, in the perfect imitation of the natural limbs, and in securing both flexibility and

* Dr. Reese was chairman of the committee of the American Institute, in 1846, which recommended the *first medal given for the invention.*

strength to the joint, so that all the functions of the natural limb are performed with ease and comfort, constitute him a *public benefactor*, and entitled to all the rewards of his ingenuity and skill which the laws of his country have provided in such cases. And believing that he has not been adequately rewarded for his great labor and expense in bringing his invention to perfection, and making it known for the public benefit, the undersigned regards it as a professional duty to science and humanity to add, that the *continued protection from trespassers upon his rights, by an extension of his Patent, would be no more than a just remuneration for the service he has rendered to the profession and the public.*

D. M. REESE."

Sworn to before me,
this 18th day of
September, 1860.

HORACE ANDREWS,
Commissioner of Deeds.

*Commonwealth of Massachusetts,
County of Middlesex.*

SOLOMON D. TOWNSEND, being duly sworn, doth depose and say, in answer to interrogatories proposed to him by Charles F. Stansbury, Esq., counsel for said Palmer, as follows:*

My name is Solomon D. Townsend; residence, Boston; occupation, surgeon and physician. I am acquainted with it [the Palmer Leg], and think it superior to all other inventions of the kind. I have seen all the modern improvements, and therefore think I am able to judge. I have had the leg applied to many patients (double

* Dr. Townsend is Surgeon to the Massachusetts General Hospital.

and single amputations), I mean my own patients, with uniform success.*

Interrogatory. What is the effect of wearing one of these legs, as compared with the use of crutches, upon the health of the wearer, and his fitness for the active duties of life?

Answer. The effect is beneficial, enabling him to perform the various duties of life with more ease and comfort; and in many cases persons have been able to follow mechanical employments with comfort. The pressure from crutches produces, in many cases, paralysis of the muscles of the arm, and sometimes distortion of the spine.

Interrogatory. Do you know anything of the practice of Palmer & Co. with reference to furnishing limbs for the poor? and if so, please state it fully.

Answer. I do. In many cases they have been provided, at my request, at half the usual price.

Interrogatory. What is your opinion of the value of the invention to the public?

Answer. I think it of unquestionable value, and that *the public would suffer if they were deprived of it. I also think it would be a disadvantage to the public if made free*, because its application requires the nicest mechanical skill. The workmanship of the leg also requires to be of the nicest character.

S. D. TOWNSEND.

Sept. 14, 1860.

Subscribed and sworn to before me,

A. W. BOARDMAN,

Justice of the Peace and Commissioner.

J. MASON WARREN, being duly sworn, doth depose and say, in answer

* Dr. Townsend has been my patron since 1846—also Dr. Warren.

B. F. P.

to interrogatories proposed to him by Charles F. Stansbury, Esq., counsel for said Palmer, as follows:

Interrogatory. What is your name, residence, and occupation?

Answer. J. Mason Warren; my residence is Boston, Mass.; occupation, surgeon and physician. I am surgeon at the Massachusetts General Hospital.

Interrogatory. Are you acquainted with the artificial leg known as the Palmer leg? and if yea, what is your opinion of its merits?

Answer. I am fully acquainted with it, and consider it the best artificial leg that I know of.

Interrogatory. What is the effect of wearing one of these legs, as compared with the use of crutches, upon the health of the wearer, and his fitness for the active duties of life?

Answer. It is very desirable that the patient should wear an artificial leg, if possible. The whole body is more likely to be fully exercised, and there is not the danger of deformity being produced by it that there is by the use of the crutches. I have occasionally seen painful affections of the upper extremities, and sometimes partial paralysis produced by the use of crutches. The spine is in danger of being more or less distorted.

J. MASON WARREN.

Sept. 15, 1860.

Subscribed and sworn to before me,

A. W. BOARDMAN,

Justice of the Peace and Commissioner.

PETER HUBBELL, being duly sworn, doth depose and say, in answer to interrogatories, as follows:

My name is Peter Hubbell, my residence, Charlestown, Mass., and occupation, brick manufacturer.

Interrogatory. Are you acquainted with the artificial leg known as the Palmer leg? and if yea, what is your experience with regard to it, and your opinion thereof?

Answer. I am acquainted with it. I have worn it for twelve years. My weight is two hundred and twenty pounds. I have worn the leg with great comfort and satisfaction, and believe it to be superior to any artificial leg I have ever seen. I have seen and worn others and abandoned them for the Palmer leg. I have known others who have used this limb and they have invariably expressed satisfaction. I knew one at Medford who lost both limbs, one above the knee, who used two of the limbs, and walked remarkably well with one cane. I knew another, and I know several who use one of the limbs, and walk so well that none but a practised eye would detect the loss of a limb. I consider that a man who has invented such an alleviation to the sufferings of the human race as this artificial limb, entitled to a handsome fortune.

I think Mr. Palmer has been indefatigable in advertising, and in bringing this limb into notice and public use. If he has made only fifty thousand dollars therefrom, it is, in my judgment, an entirely inadequate remuneration.*

P. HUBBELL.

September 14, 1860.

Subscribed and sworn to before me,

A. W. BOARDMAN,

Justice of the Peace and Commissioner.

WILLIAM H. RICHARDSON, being duly sworn, doth depose and say, in answer to interrogatories, as follows:

* Mr. Hubbell has been my patron since 1846.

B. F. P.

My name is William H. Richardson; my residence is Malden, Mass.; occupation, manufacturer of artificial limbs.

Interrogatory. Are you cognizant of the account rendered by Mr. Palmer in support of his application for an extension of his patent, so far as that account relates to the business which you have superintended? if yea, is that account correct?

Answer. I am so cognizant; and it is, to the best of my knowledge and belief, correct.

Interrogatory. Do you know anything of the efforts made by Mr. Palmer to introduce his invention into public use? if yea, state what was done to that end.

Answer. I do know that *he has been indefatigable*, sparing neither time, expense, nor effort in introducing, developing, and perfecting the patent. He has advertised very extensively, printed elaborate and costly pamphlets, attended the various fairs throughout the country, and also the World's Fair in London. He has presented gratuitously great numbers of models to the various medical institutions throughout this country and Europe, and also to the most prominent physicians and surgeons in our large cities.

Interrogatory. Will you state what you know of the manner in which the invention has been appreciated by the medical faculty, by patients who have used it, and by the public?

Answer. It has been received with great favor by our most prominent surgeons and physicians, as the most successful artificial leg ever known. This opinion has been certified to by them at the time of its original introduction and ever since. I have received from them, from various parts of the coun-

try, numerous letters to that effect. Our patients have invariably expressed themselves as more than satisfied with the operation of the limb. We have frequently, in cases of double amputation, applied two artificial legs, always with entire success, and to the entire satisfaction of the patient. We are applying limbs constantly to patients who have tried other limbs without success, and have thrown them aside for the Palmer leg.

The public express their interest in the invention by liberal contributions to enable poor patients to obtain the limb. Hundreds of dollars are annually subscribed for this purpose.

Interrogatory. What has been the practice of Mr. Palmer and yourself with reference to furnishing limbs to the indigent?

Answer. It is our rule and invariable practice to furnish limbs to the indigent and patients who are unable to pay, at a price not exceeding the first cost of the limb, and frequently for a less amount.

Interrogatory. What was the effect of Mr. Palmer's visit to the Great Exhibition in London, in 1851, upon the introduction of the leg into public use in this country?

Answer. I think it one of the most important steps ever taken; in fact, the important step towards the successful introduction of the invention into this country, giving it a name and position that it could not otherwise have attained. The high character and professional standing of the judges, who decided upon its merits at the Exhibition, gave it a name, and secured for it the entire confidence of the medical and surgical profession throughout the United States. As an advertising mea-

sure, its effect was more valuable than all the other advertising measures ever adopted by Mr. Palmer prior to that time.

Interrogatory. Is there a peculiar necessity for fine workmanship in this invention? and if so, from what does it arise?

Answer. There is, requiring the highest order of mechanical skill. This arises from the absolute necessity of the nice adjustment of its several parts, in order to secure the successful operation of the leg, and without which, it is absolutely impossible to realize the object of the invention. The objects to be attained in the manufacture of the limb are strength, lightness, durability, and easy and noiseless motion. These can be realized only by the very best workmanship.

Interrogatory. Are you aware of Mr. Palmer's experiments with new machinery, and their object? if so, please state what you know about them.

Answer. I am aware of both experiments and their object, as I was for several years a business partner with Mr. Palmer at the Philadelphia establishment. During this period, Mr. Palmer was unceasing in his experiments to improve the limb, and its methods of manufacture, and also to reduce its cost. To do this, he was constantly making and trying expensive machinery, involving large waste of time, money, tools, and materials.

W. H. RICHARDSON, JR.

September 15, 1860.

Subscribed and sworn to before me,
A. W. BOARDMAN,
Justice of the Peace and Commissioner.

MARVIN LINCOLN, being duly sworn, doth depose and say, in answer to interrogatories, as follows:

My name is Marvin Lincoln; my residence is Malden, Massachusetts, and my occupation is foreman of the Boston establishment for the manufacture of the Palmer limb.

Interrogatory. Will you state what you know of the manner in which the invention has been appreciated by the medical faculty, by patients, and by the public?

Answer. The Medical Faculty, so far as I know, are invariably in favor of it, and patients who have been treated here have been as universally pleased with the success of the limb, and with the manner in which they were able to pursue their previous avocations.

I have in my mind now a man who follows a seafaring life, and who has a full length Palmer limb, and is a pilot on the New England coast. It is a common thing for those who have a limb amputated below the knee, to con-

tinue, by the aid of this limb, a seafaring life as common sailors.

Interrogatory. Is there a peculiar necessity for fine workmanship in this invention? and if so, from what does it arise?

Answer. There is; and it arises from several causes: the first is, unless the work is done in the most complete and substantial manner, it will not stand the constant and severe wear to which the leg is subjected when in use. Another cause is, that there is a great variety of cases which require a great deal of ingenuity and skill in the application of the limb, a necessary consequence of which is, that none but the best and most ingenious mechanics can be employed in the establishment. Such mechanics command a high rate of compensation, and still must be educated to the business.

MARVIN LINCOLN.

(NOTE.—The ARGUMENT OF MR. STANSBURY, the REPORT OF DR. ANTISELL, and the DECISION OF THE HONORABLE COMMISSIONER, are published elsewhere.)

EXTENSION OF THE PATENT OF B. FRANK. PALMER,

NOVEMBER 3, 1860.

WHEREAS upon the petition of B. Frank. Palmer, of Philadelphia, Pa., formerly of Meredith, N. H., for the extension of the within Patent, granted to him on the 4th day of November, 1846, the undersigned, in accordance with the 18th Section of the Act of Congress, approved the 4th day of July, 1836, entitled "An Act to Promote the Progress of the Useful Arts," did, on this 3d day of November, 1860, decide that said Patent ought to be extended.

Now, therefore, I, Philip F. Thomas, Commissioner of Patents, by virtue of

the power vested in me by said Acts of Congress, do renew and extend the said Patent, and certify that the same is hereby extended for the term of seven years, from and after the expiration of the first term, viz., from the 4th day of November, 1860.

In testimony whereof, I have caused the seal of the Patent Office to be hereunto affixed, this 3d day of November, 1860, and of the Independence of the United States, the eighty-fifth.

[L. s.] PHILIP F. THOMAS,
Commissioner.

ARGUMENT ON BEHALF OF THE APPLICANT.

IN THE MATTER OF THE APPLICATION OF B. FRANK. PALMER, FOR THE EXTENSION OF LETTERS PATENT, GRANTED TO HIM 4TH NOVEMBER, 1846, FOR IMPROVEMENTS IN ARTIFICIAL LEGS.

BEFORE THE
HON. PHILIP F. THOMAS,
COMMISSIONER OF PATENTS.

WASHINGTON, 22d October, 1860.

HON. PHILIP F. THOMAS,
Commissioner of Patents.

SIR :

I NEVER approached a case with more satisfaction than I feel in the presentation of the application which I now have the honor to advocate; because I am convinced that a favorable action upon it by your Honor, will comport not less with the promptings of generosity, than with the dictates of justice. For it must indeed be a pleasure to grant an extension of a patent in a case where, in addition to a full compliance with the legal requirements on which the right is founded, you discover that the object of the invention is purely beneficent, and that its proprietor has so administered his property in it as to contribute, in the most efficient manner, to the production of the largest amount of good at the least possible expense to the public. Such is the character of the case now presented for your Honor's consideration.

Mr. Palmer has been in possession of this patent for fourteen years. Had he used it as men too often employ monopolies; had he taken advantage of its great and universally acknowledged superiority, and of the necessities of the mutilated victims who ap-

plied to him for aid, and extorted a large or unreasonable compensation for the relief of their sufferings, he might have received a much more ample reward for his ingenuity, and been less clearly in a position to ask your Honor for an extension of his patent. But the testimony has but one voice in declaring his course to have been the very opposite of this. He seems to have regarded the invention as a sacred trust, placed in his hands for the relief of suffering humanity, and to have looked upon his own pecuniary interest in it as a consideration altogether secondary to the claims of the mutilated unfortunates who called to him for succor.

Testimony in behalf of the extension was taken at Philadelphia on the 10th day of September last; at New York, on the 13th, and at Boston, on the 14th day of the same month. The witnesses examined are all disinterested. The employés of Mr. Palmer have been called, as they alone could speak to some of the most important points to be established. His former partners, Dr. Hudson and Mr. Richardson, have stated at the opening of their testimony, the nature of their* interest in the existing patent, *which consists, in both*

* Mr. Richardson is still a partner; Hudson is not.

cases, of a partial interest in a limited territory. No interest whatever has been assigned to them beyond the life of the existing patent; and hence, in the language of your Honor's late decision in the case of *Eliza Wells*, "it would seem to follow that the rights acquired by the assignees are necessarily limited to the term of fourteen years from the date of the grant, and terminate at the expiration of that period, leaving any remaining interest of a contingent character to be rendered certain, and to become reinvested in the original patentee by operation of law, and by the action of the Patent Office, in the extension of the patent."

For greater convenience, the testimony has been printed, and carefully compared with the original manuscript. The references which I will make to it, will therefore indicate the pages of the printed proofs.*

In support of my opening statements, with regard to the manner in which Mr. Palmer has administered his property in the invention, let me now recur to the testimony.

RICHARD CLEMENT, a mechanician, who has been with Mr. Palmer ever since he commenced the business in 1846, says: "I have known quite a number of legs to have been given away; I have known others to have been sold for cost, and less than cost."

EDWIN OSBORNE, one of Mr. Palmer's principal assistants and private secretary, who has been with him since 1847, testifies: "The price is one hundred and fifty dollars for a limb; from this, however, great reductions are often made to favor the poor and unfortunate. I never knew a person, who was at all

deserving, to be turned away for want of means."

JOSEPH D. KOUP says: "Mr. Palmer's regular price is one hundred and fifty dollars. I was poor, and he furnished me my limbs for one hundred dollars each; and I believe he generally makes that difference."

JOHN B. WYKOFF, a patient who had once been in Mr. Palmer's employ, says: "I was about two years with Mr. Palmer in the capacity of clerk, and I know that he usually made a considerable deduction from his regular charge to poor persons."

DR. HUDSON testifies, in answer to an interrogatory on this subject, that it was the invariable practice of the firm to furnish limbs to the poor "whenever they, or their friends, would pay the first cost of the limb."

DR. TOWNSEND, an eminent surgeon of Boston, says: "In many cases they [the limbs] have been provided, at my request, at half the usual price."

MR. RICHARDSON, in charge of the Boston office, states: "It is our *rule* and *invariable practice*, to furnish limbs to the indigent, and patients who are unable to pay, at a price not exceeding the first cost of the limb, and frequently for a less amount."

Similar testimony is given by Mr. LINCOLN.

The cases in which the reduction of price was made, were so numerous, that it will appear, in the sequel, that the actual amount received, instead of approaching one hundred and fifty dollars, the nominal price of the leg, was, on an average, rather less than one hundred dollars, leaving no more than a mere manufacturer's profit.

In view of this testimony, I submit that Mr. Palmer comes before you with

* These references are omitted here in the reprint, to save space.—B. F. P.

unusual claims to favorable consideration. It is owing to the noble and generous spirit in which he has administered his property in the invention, so that no person or class was excluded from a share in its benefits, that he is not to-day possessed of a magnificent fortune, which would be no more than a proper recompense for the great benefits conferred upon humanity by his ingenuity.

The case is unembarrassed by opposition, because there is no ground on which opposition can legitimately stand. The originality and utility of the invention, are as indisputable as the diligent enterprise of the inventor, and the inadequacy of his reward. Every question which the law propounds with reference to the propriety of the extension, can be triumphantly answered in his favor; and a simple perusal of the evidence presented would, I am confident, leave your Honor's mind entirely free from doubt as to the character of the answer you will render to his prayer.

THE ACCOUNT.*

Mr. Palmer has furnished a sworn account quite sufficiently in detail. * * * The general correctness of the account is testified to by Mr. Osborne, who has kept Mr. Palmer's books for the past three years in Philadelphia.

Dr. Hudson swears to a like statement with reference to the New York office, and Mr. Richardson makes a similar declaration with reference to the business in Boston.

In the account rendered, Mr. Palmer has charged \$2000 as an estimate of the value of the time, thought, and

* But a short extract is given, as the details would not interest the reader.—B. F. P.

expense devoted to experimenting from the period when he lost his leg, in 1835 (at the age of ten years), to the autumn of 1846, when he obtained his patent. That such a charge is a legitimate one, has more than once been admitted by the Office. Mr. Commissioner Holt, in the decision extending the Goodyear patent, says: "Whether we consult the letter or reason of the law, I entertain no doubt that expenditures made in the progress of experiments *preceding* the invention, but looking to it, are as clearly chargeable to the patent as those made afterwards, either in perfecting it or introducing it into use." (*Decision*, p. 5.) The charge, then, being legitimate, it is established by the applicant's oath that its amount is not excessive. The sum, indeed, appears merely nominal when the value of the result is considered.

The only other item about which there can be any question, is the charge of the expenses of the trip to London in 1851, to attend the Great Exhibition of that year. Mr. Palmer has clearly and correctly explained it, in the statement accompanying the account, as an advertising measure, intended to spread the knowledge of the importance and value of the invention at home, and therefore a proper charge to "the introduction of the invention into public use."

I was myself in London during the whole period of the Great Exhibition; and I am free to say, that no American who shared the sneers with which our unpretending display was greeted by the European press, can but feel that he owes a debt of gratitude to those who, in the end, so nobly vindicated the industrial honor of our country, and carried off the richest prizes for great and original contributions to the me-

chanic and industrial arts, and thus turned the tables on their supercilious competitors and critics.*

Prominent among these champions of our national honor, was the present applicant, whose beautiful invention attracted the notice of Europe, secured the approbation of the first surgeons of the age, and carried off the prize medal from a large number of rivals. To these facts witness is borne by the "Reports of the Juries," a work in the Library of the Patent Office, and to which reference is made in the testimony of Mr. Osborne. The newspaper articles from the British press, there referred to, are, some of them, reprinted in the Appendix, and show how favorable and how extensive was the impression made by this invention upon the public mind. This impression could not but react on the American public, watching anxiously the prospects and fortunes of our countrymen in that great industrial struggle. The American press re-echoed the laudations of the British, and the invention was made more widely known at home than ever before. Even "Punch" contributed his share to its spreading fame.

Mr. Richardson testifies that he considers Mr. Palmer's visit to London "one of the most important steps ever taken, in fact, *the* important step towards the introduction of the invention into this country, giving it a name and position that it could not otherwise have attained. The high character and professional standing of the judges who de-

ecided upon its merits at the Exhibition gave it a name and secured for it the entire confidence of the medical and surgical profession throughout the United States. As an advertising measure, its effect was more valuable than all the other advertising measures ever adopted by Mr. Palmer prior to that time."

Viewed in the light of this testimony, the expenses of this visit, and the loss of time on account of it, are fairly chargeable to the patent. * * * * Your Honor has laid it down, in the decision in the extension case of Samuel F. B. Morse, rendered last April, with reference to a state of facts entirely similar, that "the aggregate value of the *time, ingenuity, and expense* of an invention, is the criterion by which, under the law, this Office is to judge of the sufficiency of the remuneration received by him in order to determine whether an extension of the patent should or should not be granted." And the decision proceeds, in the next sentence, to point out the mode in which the value of the time is to be arrived at: "The value of the time devoted to the discovery, perfection, and introduction into use of an invention, is readily reached by reference to the emolument accruing or that might have accrued to the inventor from the ordinary pursuits of life for which he may have fitted himself." On this principle, undoubtedly the correct one, Mr. Palmer would have been able, by the exercise of his talents and enterprise in any of the professions (for any one of which his education and ability would have made him a proper candidate), to earn the very moderate income of two thousand dollars a year, and should be credited with that amount during the term of his patent. Measured by the criterion

* Mr. Stansbury was the AMERICAN COMMISSIONER to the GREAT EXHIBITION. He was intrusted with all the contributions sent over in the Frigate St. Lawrence, and subsequently prepared a report to Government. He was also a member of the Central Committee, of which President Fillmore was chairman. B. F. P.

which your Honor has laid down in the admirable decision just quoted, viz., “the value and importance to the public of the invention itself, as ascertained by the evidence of intelligent and disinterested witnesses,” the largest sum named, as a compensation for Mr. Palmer’s time and ingenuity, seems indeed inadequate, not to say paltry. We shall have to recur to this point later in the argument.

* * * * *

There are five questions which arise in reference to an application for the extension of a patent. They are, 1st. Is the invention novel, *i. e.*, was it new and patentable when it was originally before the Office? 2d. Is it useful? 3d. Has the inventor used due diligence in introducing it into public use? 4th. Is it valuable and important to the public? and, 5th. Has the inventor been inadequately remunerated for the time, ingenuity, and expense bestowed upon the invention, and its introduction into use? The first two of these questions are to be answered by the learned Examiner, to whom the case is referred for a report. The others are mainly to be determined by the evidence of disinterested witnesses, submitted by the patentee in support of his application, the burden of proof being on the applicant. These questions we shall consider in order.

NOVELTY.

I. It is a significant fact, with relation to the question of novelty, that there has been an almost universal acquiescence in the claim of Mr. Palmer to novelty and originality in this invention. The infringements of the patent have been quite insignificant. No person has ever disputed Mr. Palmer’s

right to the invention by a lawsuit, or by an interfering application for a patent. When the reputation of the limb, and the great demand for it, are considered, this freedom from the attempts of unscrupulous pirates is a fact of most significant bearing on the question now before us.

UTILITY.

II. The utility of the invention admits of no question. What we have to say on this subject will be presented under another head.

DILIGENCE.

III. Has the inventor used due diligence in introducing his invention into public use?

On this question I need only quote the statement of Mr. Richardson, in answer to Interrogatory 5.

“Interrogatory 5. Do you know anything of the efforts made by Mr. Palmer to introduce his invention into public use? If yea, state what was done to that end.

“Answer. I do know that he has been *indefatigable*, sparing neither *time*, *expense*, nor *effort*, in introducing, developing, and perfecting the patent. He has advertised very extensively, printed elaborate and costly pamphlets, attended the various fairs throughout the country, and also the World’s Fair in London. He has presented gratuitously great numbers of models to the various medical institutions throughout this country and Europe, and also to the most prominent physicians and surgeons in our large cities.”

This testimony is fully corroborated by *Clement, Osborne, Moore, Litzenberg, Wykoff, Hudson, and Lincoln*, all of whom unite in bearing witness to the indefatigable enterprise and indus-

try of Mr. Palmer in bringing his invention to the knowledge of the public. Examples of the pamphlets published and distributed by him, are annexed as Exhibits to the Testimony. The presence of the limb at the various industrial exhibitions of the country, is shown by the list of awards made by the institutions which held them, given in Mr. Osborne's testimony. The averments of the "Explanatory Statement," with regard to the efforts and expenditures for the purpose of introducing the invention, are fully borne out by the evidence, and show that the failure of the applicant to receive an adequate reward, has not been due to any "neglect or fault on his part."

PUBLIC VALUE.

IV. Is the invention of value and importance to the public?

It has been well observed that it is the *ratio* between the amount of compensation received by the inventor, and the ascertained value of the invention, which is the true test of the propriety of granting an extension. It is not because the inventor has received little that his extension should be granted; nor is it because he has received much that it should be refused. Hence the value of the invention to the public is the principal thing to be shown in such an application.

With regard to this question, this invention stands upon entirely different ground from that occupied by an invention whose value is purely pecuniary, and where the saving or benefit to the public can be stated in dollars and cents, and thus the ratio between the public value, and the inventor's emoluments, made out with exactitude. We can never reduce the value of an inven-

tion like this to exact pecuniary statement, until we learn to measure human sensibilities with a rule, and weigh human joys and sorrows in a balance. Although this invention has, undoubtedly, a high pecuniary value to the public, yet its chief value is as clearly a moral one.

"A sound mind in a sound body," is the comprehensive description of the state of a perfect man. The loss of a faculty, or of a member, destroys that enviable perfection; and to restore the one, or provide an adequate substitute for the other, is an object worthy of the highest efforts of beneficence. The greatest poets in our tongue have found a theme in the horrors of natural deformity. Those of accidental mutilation have the added pang of contrast.

When a man is deprived of a leg, the measure of his loss is not to be found in the mere privation of its previous service. His affliction is to be estimated, morally, by his mortified and wounded sensibilities, and physically, by a long train of cruel sufferings, arising from well-understood physiological causes. Among these are the disturbance of the balance between nutrition and assimilation, producing plethoric and apoplectic symptoms; the injurious effect of the use of crutches upon the circulation, the nervous system, the spine, the skeleton of the trunk, and the lungs. The man's material interests, moreover, are usually affected by his unfitness for the pursuit of the avocations to which he had previously been devoted. Railroad employés, who are frequently subjects of the accidents which result in mutilation, afford an illustration. They are never, or rarely, able to go about their dangerous work on crutches, and hence are often reduced

to pauperism by the loss of a leg, and become a charge upon the community. It is in evidence that men, thus mutilated, are restored by the use of this admirable invention to the power of following their old avocations. The witnesses in the case have illustrated their own testimony, being in the actual enjoyment of a living due to Mr. Palmer's compensatory skill. Lincoln mentions the cases of men with one leg, following the occupations of pilots and common sailors; and I have myself seen an engineer, with *two* of Palmer's artificial limbs, driving a locomotive.

If, then, the invention of Mr. Palmer enables men, who, without it, would be reduced to beggary, to pursue their ordinary avocations, and earn by their labor a living for themselves and their families, it has a direct pecuniary value to the public. We have no way, however, of stating it with accuracy on a balance sheet; as we cannot trace the history of Mr. Palmer's army of thousands of patients, and show how much each one has gained for himself, or saved to the public, through the possession of this invaluable invention. When we consider, however, that as appears from Mr. Palmer's statement, the majority of these patients are from the industrial and poorer classes of the community, it will be evident that the sum, if it could be correctly ascertained, would have to be stated in millions. For, in a case where a man is enabled by this limb to make a living, who could not have done it without, his entire support, from the time of his procuring the leg until the day of his death, is properly credited to the invention, and, in addition to this, the saving of the amount which it would have cost the community to maintain him.

Mr. Palmer has sworn that the largest part of his patients were unable, on account of poverty, to pay the full price for the limb. This fact also appears from the average amount received for the limb. Many of these persons would not be able without the leg to earn a livelihood, and would become with their families more or less dependent upon the charities of the community for support. Let us assume, what is certainly below the truth, that five hundred of these unfortunates are of this character, and that the annual difference to the public between their being able to make their own living, and their becoming paupers, is five hundred dollars in each case (certainly, when all things are considered, an extremely low estimate), and *we shall have an annual saving from this class of cases alone, of \$250,000, equal to \$3,500,000 in fourteen years.* But this saving goes on during the whole life of the wearer of the limb, and is not limited to the term of the patent. The pecuniary saving is, therefore, proportionately extended in time, and increased in amount. It is safe to assert, moreover, that of the remaining cases, not included in the above estimate, a large proportion have been directly benefited in their pecuniary condition, by being enabled to follow pursuits which would otherwise have been closed to them, or to engage in them with more interest and vigor.*

* It may be safe to assert that one thousand of these, without such a substitute, while able to support themselves, would, nevertheless, have necessarily become a *consuming* rather than a *contributing* portion of our population; hence *society* would have felt the need of their presence and active support.

If we set the *public* value of each man's services at the small sum of \$100 per year, the amount will thus be increased to five millions of dollars.

B. F. P.

The witnesses have spoken on this point with clearness and unanimity.

*Daniel Moore** says: "My opinion is, that it [the leg] is the best I have ever seen, as it enables the wearer to perform work, and follow occupations that he could not do with a peg leg, or on crutches, especially where the amputation is above the knee."

T. H. Litzenberg says: "I could not do without it. I could not attend to my business on crutches, or on a peg leg, with any satisfaction." And, in another place, he says: "I can't find words to express my high opinion of the value of this invention to those who are so unfortunate as to lose their limbs."

J. D. Koup says: "Money could not pay the value of them to me. If they were taken away from me, you might as well take my life." This witness wears two of these limbs, and yet walks well, about two miles a day, and earns a comfortable living, as a telegraph operator and despatcher, on the Reading Railroad.

James McEleney has lost both of his legs, and wears two of Palmer's artificial limbs; yet, instead of being reduced to pauperism, he earns his living as a watchman at a railroad crossing, and walks four or five miles a day, besides being on his feet from morning till night. He says: "I would not be without them if I had to pay five hundred dollars apiece for them. I would not be able to earn a living without them. I can now chop wood, use a pick, a spade, a saw, or do almost anything."

* Mr. Moore has now in use the Leg made for him in the year 1847. It is in good condition. All of the limbs alluded to have been made by the inventor, in person.

John B. Wykoff gives similar testimony. He states, "I do a great deal more labor than many who have two good legs. My business is laborious, and requires me to handle bags of grain which weigh from seventy-five to one hundred and twelve pounds." He adds, "I consider the invention very valuable."

Dr. Townsend says, "The effect [of wearing the limb] is beneficial, enabling him [the wearer] to perform the various duties of life with more ease and comfort; and, in many cases, persons have been able to follow mechanical employments with comfort." He adds, further on, "I think it of unquestionable value, and that the public would suffer if they were deprived of it. I also think it would be a disadvantage to the public if it were made free."

Peter Hubbell, of Boston, a gentleman of wealth and influence, testifies that he has worn the leg for twelve years. His weight is two hundred and twenty pounds; yet he has worn the leg with comfort and satisfaction, and walks without a cane. He is in active business, and has to be on his feet a great deal.

Mr. Richardson says, that the use of the limb enables the patient "to attend to his occupation, calling, or profession, with almost or quite his usual ability."

Mr. Lincoln states that the patients are "universally pleased with the success of the limb, and with the manner in which they were able to pursue their previous avocations."

Litzenberg states that, after he had become accustomed to the leg, he felt that he was "able for almost any kind of business, and commenced looking for

business again." He adds, "I have great comfort with the leg. I have been able to do almost *anything that I could reasonably have expected.*" His leg has never required any repairs for five years; and, when it was taken away for a few days to make a new socket, in consequence of the shrinkage of the stump, he found it so inconvenient to be without it, for even two or three days, that he ordered a duplicate.

This testimony is cited to show the direct *pecuniary value* of the invention to the public, in enabling the mutilated to pursue the business they followed previous to their loss with nearly the same facility as before, thus saving them from the sacrifices attendant upon a change of occupation, and the public from their being thrown as a burden upon the more fortunate members of the community.

As to the general *moral value* of the invention, and its superiority over others, the testimony is so full and so uniform, that I need not cite it, and will only refer to it. The awards of public institutions, where this invention has come into competition with everything of its class, have been very numerous, and uniformly favorable to the superiority of this limb over every other. The opinions of the most eminent surgeons of Europe and America have been expressed, without reserve, to the same effect. Most of the patients who have testified, state that they obtained this leg, in preference to all others, by the recommendation of their surgeons.

The most distinguished American surgeons have not hesitated, notwithstanding the somewhat stringent ethics of the American Medical Association

on the subject of patents, to respond to the application of Mr. Palmer, and give their testimony to the value of his invention. These eminent surgeons have given it as their opinion that this is the *best invention* for its purpose known. *Dr. Rohrer* says, "It is the leg most generally used and recommended by the surgeons of this country;" that "it seems to be *the only one* that answers the best purpose." He considers it "*of immense value to the public.*" *Dr. Carnochan* says he considers it as "*superior in merit to any other invention for the same purpose, and as of great importance and value to the public.*"

The deposition of *Dr. D. M. Reese*, of New York, is particularly full and decisive, and I invite your Honor's particular attention to it as explaining, in a scientific and professional manner, his reasons for preferring this limb to all others, and expressing the highest appreciation of the service rendered by Mr. Palmer to the profession and to the public.

Dr. Townsend, of Boston, speaks from long and large experience, and with a full knowledge of all the modern inventions. His preference is no less decided than that of his professional compeers.

Dr. Warren is fully acquainted with the invention, and considers it the best artificial leg known to him.

As this is in some degree a question of reputation, I have introduced sworn copies of original letters from the leading surgeons of Europe and America, expressing their opinions of the value and importance of the invention; and also similar copies of letters from patients in England and the United States. The original letters will be

produced, if your Honor should deem their exhibition essential.

I have also added extracts from some of the best and most widely known works on Surgery, in which the public importance and value of this invention are fully recognized. The original works have been submitted for examination and comparison.* *It will be seen, from the perusal of those extracts, that the views of Mr. Palmer on the subject of amputations, derived from his long and great experience in the application of artificial limbs, are considered as of controlling importance, and are recognized as those by which surgeons ought to be governed in determining "the point of election" in these operations.†*

I submit to your Honor that the moral and pecuniary value of the invention to the public is fully made out.

* Extract from the great French work on Operative Surgery, by ALF. A. L. M. VELPEAU, of Paris. Fourth edition, with Notes and Observations, by VALENTINE MOTT, M.D., Emeritus Professor of Surgery, in the University of New York; and Additions, by GEORGE C. BLACKMAN, M.D., Professor of Surgery, in the Medical College of Ohio.

Extract from the great American "System of Surgery;" by S. D. GROSS, M.D., Professor of Surgery in the Jefferson Medical College, Philadelphia; pp. 647, 648, and 649, Vol. I.

Extract from a celebrated English work on Surgery; by JOHN ERICHSSEN, London. American edition, by JOHN H. BRINTON, M.D., Philadelphia, 1854; p. 86.

† "I subjoin Mr. Palmer's instructions for the formation of suitable stumps in amputations of the leg and thigh, as they are now generally acted upon by the more accomplished operators of the country."—*Gross' Surgery*.

"We insert the views of Mr. Palmer, which have special reference to the *comfort and usefulness* of the mutilated." "WHERE AND HOW TO AMPUTATE."—*Velpeau's Surgery*.

REMUNERATION.

V. The fifth and last question which requires to be satisfactorily answered, in order to the grant of an extension, is,—Has the inventor been inadequately remunerated for his time, ingenuity, and expense, bestowed upon the invention, and its introduction into use?

The invention has saved hundreds of worthy men from pauperism, restored thousands to usefulness, and carried hope and happiness to hearts and homes rendered wretched and desolate by the most direful and hopeless of misfortunes.

Mr. Hubbell, who has worn this limb for twelve years, bears the following testimony: "I consider that a man who has invented such an alleviation to the sufferings of the human race as this artificial limb, ought to be entitled to a handsome fortune."

Dr. Reese gives it as his professional opinion "that the invention and improvements of Dr. Palmer, in the perfect imitation of the natural limbs, and in securing both flexibility and strength to the joint, so that all the functions of the natural limb are performed with ease and comfort, constitute him a *public benefactor*, and entitled to all the rewards of his ingenuity and skill which the laws of his country have provided in such cases. And believing that he has not been adequately rewarded for his great labor and expense in bringing his invention to perfection, and making it known for the public benefit, the undersigned regards it as a professional duty to science and humanity to add, that the continued protection from trespassers upon his rights, by an extension of his patent, would be no more than a just remuneration for the service he has rendered to the profession and the public."

When your Honor considers that this is the sworn statement of one of the most eminent surgeons of the country, and remembers the reserve which gentlemen of the faculty are accustomed to maintain, especially on subjects of this character, it will carry with it a weight which the testimony of less distinguished and less reticent witnesses could never possess, and which cannot fail to have a corresponding influence on your Honor's opinion.

Tested, then, by the opinion of highly intelligent and distinguished witnesses, as well as by the principle of calculation which has guided the Office in similar cases which have come before you for adjudication, I submit that the remuneration of Mr. Palmer has not been a "reasonable" one, but has been altogether insufficient, and inadequate to the merit of his invention.

THE PUBLIC INTEREST.

The law makes it the duty of the Commissioner of Patents, in considering an application for an extension, to have "due regard to the public interest." Where all the requirements hereinbefore alluded to are fully complied with, it is in the discretion of your Honor to refuse an extension, if, in your judgment, the public interest would be injuriously affected by it. It therefore becomes the applicant to show that no such effect is likely to result.

In the present case, it is satisfactory to feel that the interest of the public concurs with that of the applicant in asking the extension. It is a law of trade that, where a large demand is created for an article, there is a rush, often of incompetent and unskilful persons, into the manufacture. Competi-

tion then lowers the price, and lowness of price reacts unfavorably upon the quality of the product, owing to attempted savings in the stock and workmanship which enter into its manufacture. In the case of an article whose whole utility and value depends upon, although it may not consist in, the quality of the materials, and the character of the workmanship employed in its construction, it is essential to the preservation of its quality in the proper perfection, that its manufacture should be in the hands of those who are directly interested in the maintaining its superiority.

If, to apply the principle, the patent of Mr. Palmer were made public, many persons, tempted alone by the desire of gain, would at once begin the manufacture of his limb. Destitute of capital, experience, or anatomical and surgical knowledge, and strangers to those just and elevated views which Mr. Palmer has always held, of the character of the trust which the possession of such a property implies, they would produce an article vastly inferior in material and workmanship, fail in the nice adaptation of the limb to the peculiarities of each case, cut down the price to a standard that would render the highest excellence impossible, and thus ruin the reputation of the limb, destroy the public confidence in it, and leave the unfortunates who need such an appliance, to the tender mercies of pegs and crutches, or the more doubtful consolations offered by other inventions.

As the amputation of every limb differs from that of every other, and as no two human beings are exactly of the same size and proportions, every artificial limb made by Mr. Palmer, must be made for the particular patient to

whom it is to be applied, and is a *work of combined surgical, mechanical, and artistic skill*. The new limb must be, in size, shape, and action, as nearly a counterpart of the one whose place it supplies, as possible. It must fit the stump with accuracy and ease; and, to be comfortable, must be strong and yet light, flexible yet firm, and must act with certainty and force, yet without noise. To secure these conditions is no easy problem; and hence it appears in evidence, that Mr. Palmer not unfrequently throws aside limbs that have been completely finished, because they do not come up to the high standard of excellence which he has established, and is determined to maintain. His effort has always been to bring the workmanship, as near as possible, to absolute perfection; and, to this end, he has spared neither expense nor trouble. Such is the united testimony of the witnesses.

Richard Clement says: "Mr. Palmer has got up a great deal of machinery expressly for the purpose of manufacturing different parts of the leg. He has expended a large amount of money in experimenting in machinery." Further on he says: "Mr. Palmer is very particular about the workmanship. I have known him to throw aside a great deal of work which had been commenced, and I have also known him to have limbs frequently made over after being entirely finished."

Mr. Osborne says: "During the past three years new methods of manufacturing have been introduced, at great expense for machinery and tools.

"The quality of the workmanship of the leg is greatly superior to what it ever has been before; this expense in the machinery was entered into for the

purpose of reducing the cost, if possible, and to add to the durability of the mechanism, thereby reducing the expense of repairs, &c., to the patients.

"The highest perfection of workmanship is absolutely necessary, in order that the full benefit of the invention may be received; no expense has been spared to bring about this result."

Daniel Moore says: "The durability and workmanship of Mr. Palmer's leg I consider very superior, as I have worn the same leg for about *twelve years*, without any material repairs."

J. D. Koup, who wears two of these limbs, says: "My limbs have worn remarkably well. I have had very little repair put upon them, and none at all for the last eighteen months.

"I have seen samples of different artificial legs, but I consider Palmer's the best artificial leg that ever was in existence.

"The workmanship of the Palmer leg is remarkably good and durable; and in its motion and action of the working of the limb, is the nearest approach to the natural limb possible, and also for ease and comfort to the wearer."

James McEleney says: "I walk a great deal; I average four or five miles a day, besides that I am always on my feet from early morning till late at night.

"I have used my limbs very hard, but they have lasted remarkably well, with very little repairs. The workmanship is excellent; the leg is light, strong, and comfortable."

J. B. Wykoff says: "As soon as I was able I got one of Palmer's legs. I was very much pleased with it, and considered it decidedly preferable to the one I had been wearing. It was lighter,

fitted better, and was better constructed; it was a more elastic leg, and it imitated the natural leg more in appearance, shape, and movement. I walk a great deal; on an average of at least three or four miles a day, sometimes more."

Dr. Rohrer says: "It combines lightness, strength, and beauty."

Dr. Reese says: "For all the purposes of durability, mobility of joint, and surgical adaptation to every natural motion of the limbs, he has witnessed in actual use the artificial arms and legs of *Dr. Palmer's* manufacture, by patients who have worn them for years, while performing the most active locomotion with comfort and without deformity, so that *they have been able effectually to overcome and conceal their mutilation, by reason of the perfection with which all the functions of the natural limb have been performed in the actual duties of life.*"

The following is *Mr. Richardson's* testimony on this point:

"Interrogatory 10. Is there a peculiar necessity for fine workmanship in this invention? and if so, from what does it arise?"

"Answer. There is, requiring the highest order of mechanical skill. This arises from the absolute necessity of the nice adjustment of its several parts, in order to secure the successful operation of the leg, and without which, it is absolutely impossible to realize the object of the invention. The objects to be attained in the manufacture of the limb are strength, lightness, durability, and easy and noiseless motion. These can be realized only by the very best workmanship.

"Interrogatory 11. Are you aware of *Mr. Palmer's* experiments with new machinery, and their object? If so,

please state what you know about them.

"Answer. I am aware of both experiments and their object, as I was, for several years, a business partner with *Mr. Palmer* at the Philadelphia establishment. During this period, *Mr. Palmer* was *unceasing in his experiments to improve the limb, and its methods of manufacture, and also to reduce its cost. To do this, he was constantly making and trying expensive machinery, involving large waste of time, money, tools, and materials.*"

Mr. Lincoln testifies as follows:

"Interrogatory 7. Is there a peculiar necessity for fine workmanship in this invention? and if so, from what does it arise?"

"Answer. There is; and it arises from several causes: the first is, unless the work is done in the most complete and substantial manner, it will not stand the constant and severe wear to which the leg is subjected when in use: another cause is, that there is a great variety of cases which require a great deal of ingenuity and skill in the application of the limb, a necessary consequence of which is, that none but the best and most ingenious mechanics can be employed in the establishment. Such mechanics command a high rate of compensation, *and still must be educated to the business.*"

Dr. Townsend says: "I think it of unquestionable value, and that the public would suffer if they were deprived of it. I also think it would be a disadvantage to the public if it was made free, because its application requires the nicest mechanical skill. The workmanship of the leg also requires to be of the nicest character."

If the patent be extended, the manufacture will remain in Mr. Palmer's

hands, and with the facilities which it appears he is now providing at his new establishment, he will be able to supply the entire demand with an article of the same high character as that which, it is proved, he has heretofore furnished to his patients. The price, regulated by the same just principle as hitherto, will be no higher than the admirable quality of the limb and the surgical skill required in its application demand and justify. The public confidence in the invention will be maintained and strengthened, and the mutilated will have the satisfaction of knowing that their losses can be supplied by a reliable substitute, in every respect of the very best quality. The reverse of all this

would be true, were the invention to be made public property. I contend, therefore, that the public interest would be promoted by a favorable action on our application.

In conclusion, it is respectfully submitted, that all the legal conditions having been fulfilled, my client is entitled to the extension of his patent; and I have no doubt that your Honor will concur in this opinion, and grant the prayer of the petition.

I have the honor to be, Sir,

Your obedient servant,

CHAS. F. STANSBURY,

Counsel for B. FRANK. PALMER.

WASHINGTON, 22d Oct., 1860.

Extension granted Nov. 3, 1860.

THE EXAMINER'S REPORT,

IN THE MATTER OF THE APPLICATION OF B. FRANK. PALMER FOR THE EXTENSION OF THE PATENT No. 4834, GRANTED TO HIM AND DATED NOVEMBER 4, 1846.

TO HON. COMMISSIONER OF PATENTS.

SIR:

The applicant obtained a patent on the above date for an improvement in artificial legs and feet, the nature of which consisted in the formation of a *new mode of articulating the knee, ankle, and the toes of the artificial limb, by which there would be no cavities or open spaces left in the material near the joints, and the leg be considerably strengthened thereby.* A portion of the improvement consisted also in the *arrangement of tendons and springs, whereby greater elasticity and freedom of movement is attainable than was usual previously.*

These objects were accomplished by forming the knee with a pivot, and terminating the lower end of the thigh by

a hemisphere, and forming the upper end of the front side of the leg into a concave edge, which by gliding over the hemisphere, left it in place, and allowed ease of motion. A long tendon, spring, and cord connected the back of the thigh with the foot-piece, passing through the centre of the leg, and regulating the motions both of the knee and foot. Another tendon, peculiar to the leg and foot, gives elasticity and regulates motion also.

THE CLAIM put forward includes the application of the LONG TENDON, SPRING, and CORD, the mode of forming the KNEE JOINT, and that of the ANKLE JOINT.

The application for extension is accompanied by a large amount of testimony, and by the statement of accounts,

which were duly forwarded to the Office in accordance with the established regulations.

With regard to the first part of the inquiry, viz.: "Is the invention novel?"

A STRICT SEARCH AMONG AMERICAN AND FOREIGN INVENTIONS ANTERIOR TO THE DATE OF THE PATENT, AND AN INQUIRY INTO THE CONDITION OF THE ART, WARRANTS THE STATEMENT THAT THE CLAIMS PUT FORTH IN THE PATENT WERE NOVEL AT THAT PERIOD, AND THAT THE PATENT WAS PROPERLY GRANTED.

Is the invention useful?

Applicant has submitted a large amount of testimony of the several *surgeons of high eminence in this country and in Europe*, also certificates from individuals who have used it, and the report of the Jury of the CRYSTAL PALACE EXHIBITION OF LONDON, 1851. One of the GREAT PRIZE MEDALS was also awarded to Mr. Palmer for his artificial leg.

Has the inventor used due diligence in introducing his invention into general use?

Reference to the testimony of Richard Clement, Edwin Osborne, Daniel Moore, and Dr. E. D. Hudson, shows that *from the moment Mr. Palmer obtained his patent in 1846 until now, he has been active in placing his invention before the medical profession*, the parties who can best serve the purpose of introducing it into general use, the number of *hospitals and institutions to which he has furnished his apparatus;*

the *public exhibitions and fairs*, both in this country and Europe, which applicant has attended, and the *medals, awards, and honorable mention*, which he has received at various times, attest sufficiently the fact that due diligence has been exerted.

Has the inventor been adequately remunerated for his time and expense in originating and perfecting it?

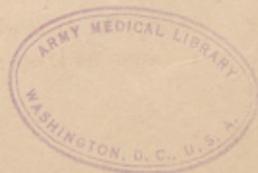
It must be remembered that an improvement of this kind differs from many others in this regard, that it is available only to a small portion of the community, *i. e.* the maimed and the defective. These are but a small percentage of the community, and even of these a large proportion are found in the poorer classes, whose means do not allow them to pay expensively even for necessary aids to locomotion. From the nature of things, therefore, the patentee has been limited in his remuneration, and unless this patent be extended, it does not appear that that amount of reward which should naturally follow an *invention of great value, though of limited use*, will accrue to applicant.

In view of the great value of the invention, as an improvement in artificial limbs, as set forth by medical and other testimony, and considering the application as not being sufficient to remunerate patentee, it is recommended that the petition of applicant for extension of letters patent, dated Nov. 4th, 1846, be granted.

Respectfully submitted,

THOMAS ANTISELL.

October 25th, 1860.



DECISION OF THE COMMISSIONER OF PATENTS, EXTENDING THE PATENT.

UNITED STATES PATENT OFFICE,
Nov. 3d, 1860.

IN the matter of the application of B. FRANK. PALMER for the extension of Letters Patent granted to him on the 4th of November, 1846, for Artificial Legs, the hearing was set for the 22d October, 1860.

In this case there appears to be no opposition to the grant of the extension as prayed, and the Examiner in charge of the class to which the invention belongs has reported that IT WAS NOVEL AND PATENTABLE WHEN THE PATENT WAS GRANTED. Its utility, also, is strongly indorsed by the Examiner, and is clearly made out by the concurring testimony of very many distinguished surgeons in this and foreign countries, and of a large number of unfortunate persons, who, in consequence of the loss of one or both of their legs, were obliged to avail themselves of its use.

The pecuniary value of this invention it is difficult, and indeed impossible, to ascertain; for, out of the mass of our population, it may be regarded as fortunate that but very few persons are so maimed as to be obliged to resort to the use of an artificial leg. The evidence of many of those who have used it, establishes beyond question that it does possess a VERY LARGE PECUNIARY VALUE TO THE PUBLIC. This value in a great degree consists in the fact, as testified to by several witnesses, that, without the aid of the invention, they

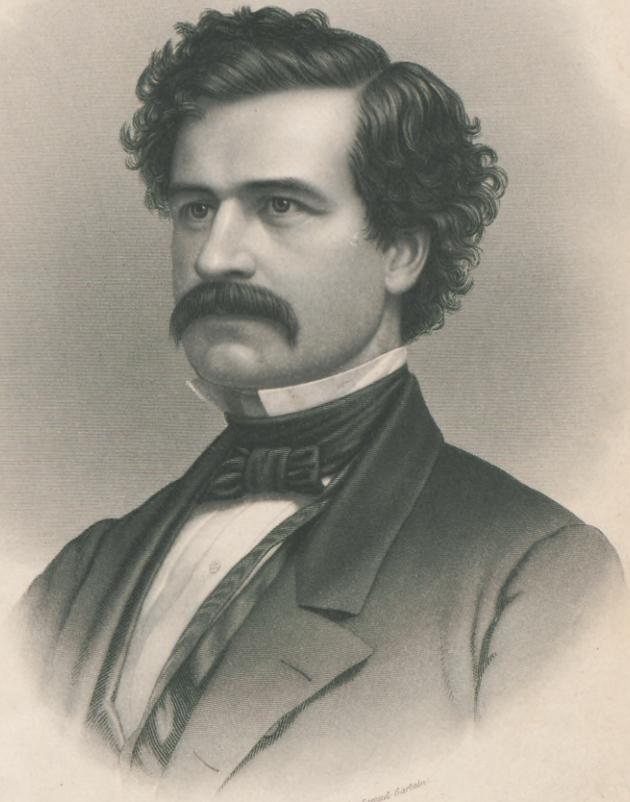
would have been unable to have prosecuted any business which would have afforded a living to themselves and their families, and that consequently the public would have been taxed for their support.

Assuming, as the argument does, and I think justly, that *five hundred of these persons would, without the use of the invention, have been unable to maintain themselves and families*, and that the public would have been chargeable with their support, it cannot be considered extravagant to fix its public value during the time of the monopoly at A MILLION AND A HALF TO TWO MILLIONS OF DOLLARS. Upon the principle heretofore declared by the Office, the public value of an invention, together with the value of the time devoted to it and the expenses incurred by the patentee, forms the criterion of judging as to the sufficiency of the remuneration.

I am satisfied from the evidence that due diligence has been used by the applicant, and that without neglect or fault on his part he has failed to receive adequate remuneration for the time, ingenuity, and expense bestowed upon the invention, and that upon the whole case *he is entitled to an extension of his Letters Patent*. It is therefore ordered, that the said Letters Patent be and the same are hereby extended for the term of seven years from and after the expiration thereof.

PHILIP S. THOMAS,
Commissioner.

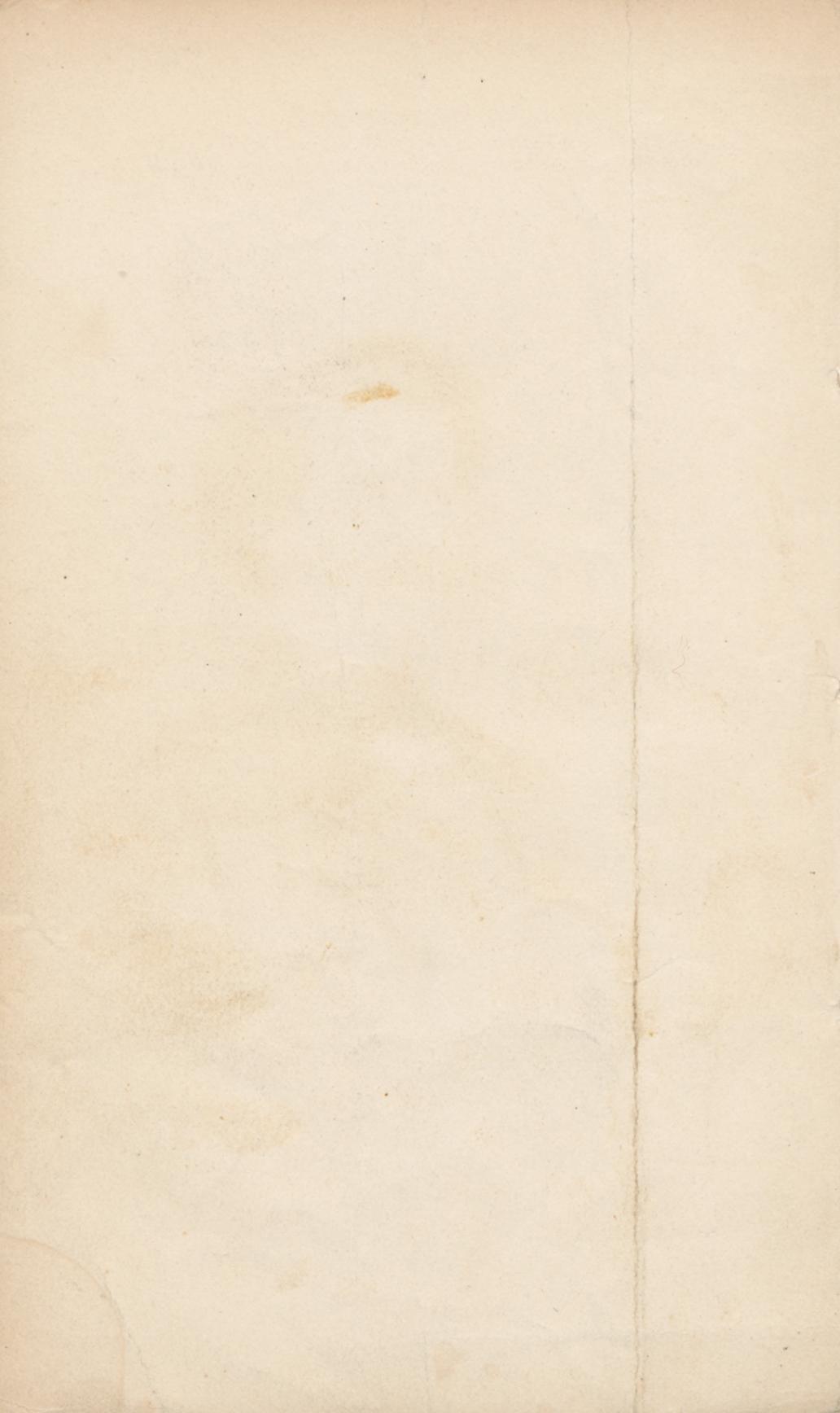
Palmer



Engraved by Samuel Currier

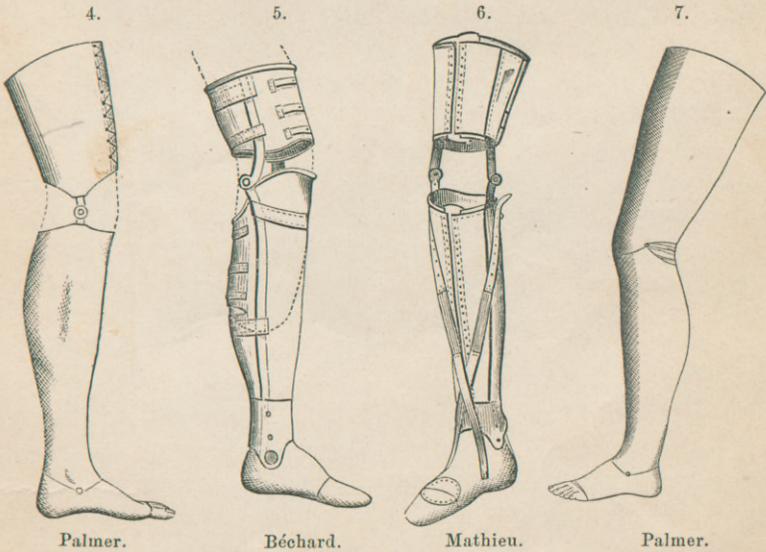
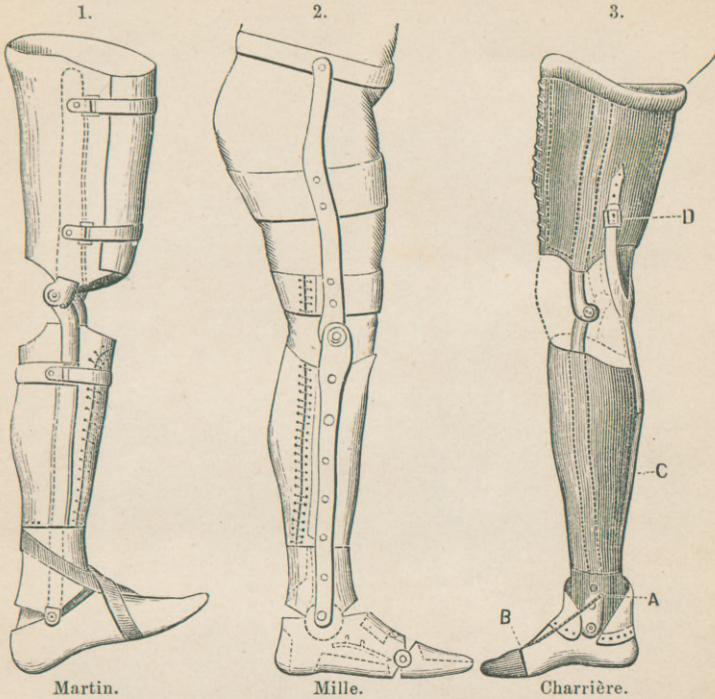
W. D. Frank Palmer

SURGEON—ARTIST.



FRENCH REPORT.

MODELS of the FRENCH and AMERICAN ARTIFICIAL LEGS,
recently reported upon by the Société de Chirurgie of Paris.



See pages 10 to 16. Successive trials of the best French and American Limbs.

Award given in favor of "The American Leg."

