

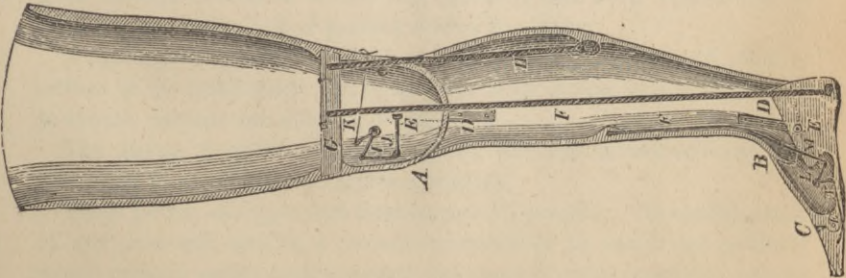
PALMER'S PATENT LEG.—(SEE PAGE 3.)

CUTTED FROM CUTS IN

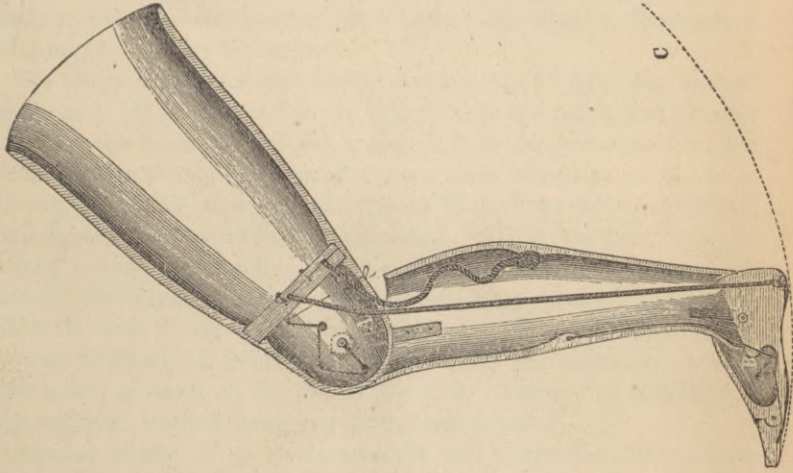
# VELPEAU'S OPERATIVE SURGERY,

Pages 277, 278, and 279, New Edition, 1856.

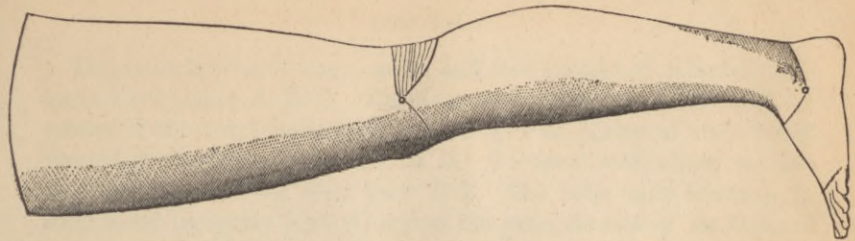
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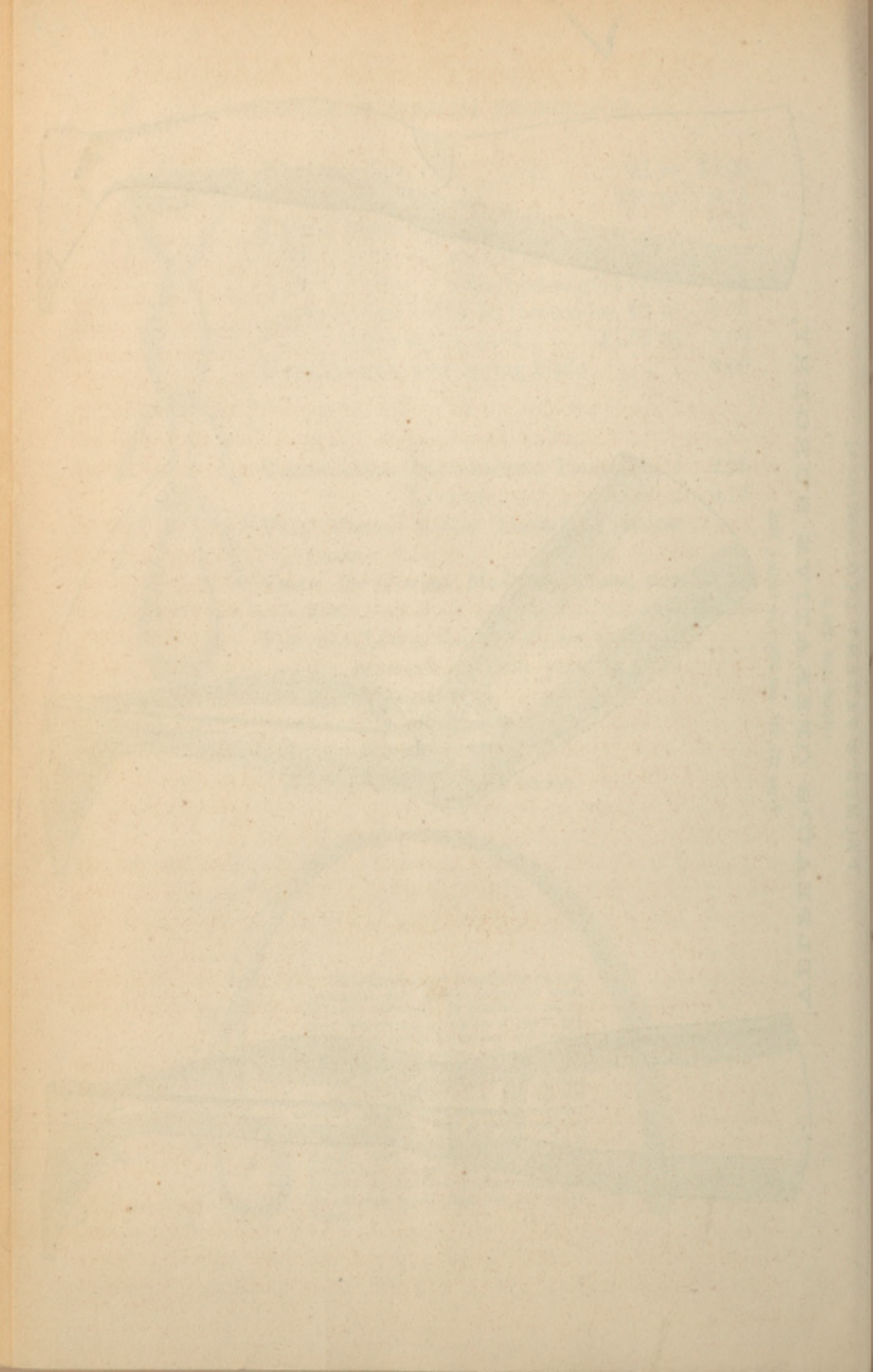
Internal view.



External view seen forward



External view



## SPECIFICATION OF PALMER'S PATENT LEG.

(See Cuts.)

THE articulations of knee, ankle, and toes, consist of detached ball-and-socket joints A B C. The knee and ankle are articulated by means of the steel bolts E E, combining with plates of steel firmly riveted to the sides of the leg D D. To these side plates are immovably fastened the steel bolts E E. The bolts take bearings in solid wood (properly bushed) across the *entire diameter of the knee and ankle*, being fourfold more reliable and durable than those of the usual construction. All the joints are so constructed, that no *two pieces of metal move against each other in any part of the limb*. The contact of all broad surfaces is avoided where motion is required, and thus friction is reduced to the *lowest degree possible*. These joints often perform many months without need of oil, or other attention, a desideratum fully appreciated by the wearer.

The tendo Achillis, or heel tendon F, perfectly imitates the natural one in use. It is attached to the bridge G, in the thigh, and passing down on the back side of the knee-bolt E, is firmly fastened to the heel. It acts through the knee-bolt, *on a centre*, when the weight is on the leg, imparting security and firmness to the knee and ankle joints, thus obviating all necessity for *knee-catches*. When the knee bends in taking a step, this tendon vibrates from the knee-bolt to the back side of the thigh A, Fig. 2. It descends through the leg, so as to allow the foot to rise above all obstructions, in flexion, and carries the foot down again, in extension of the leg for the next step, so as to take a firm support on the ball of the foot. Nature-like elasticity is thus attained, and all thumping sounds are avoided.

Another tendon H, of great strength and slight elasticity, arrests the motion of the knee gently, in walking, thus preventing all disagreeable sound and jarring sensation, and giving requisite elasticity to the knee.

A spring, lever, and tendon I J K, combining with the knee-bolt, give instant extension to the leg, when it has been semi-flexed to take a step, and admit of perfect flexion in sitting.

A spring and tendons in the foot L M N, impart proper and reliable action to the ankle-joint and toes. The sole of the foot is made soft to insure *lightness and elasticity of step*.

The stump receives no weight *on the end*, and is well covered and protected to avoid friction and excoriation.

These joints, springs, and tendons are all *patented*. No modification of any part will enable a person successfully to evade the patents, which contain about *twenty distinct and combined claims*, covering nearly the *entire mechanism*. Fig. 3, is an external view of Palmer's perfect model.

## PALMER'S PATENT ARM AND HAND.

(See Cut.)

FIG. 1, represents an arm to be applied above the elbow. The articulation A B is a ball and socket, connected by the steel plates C C, and turning upon the pinion D. The functions of the bones in the Fore-arm are imitated by the conical shaft E, which terminates in a ball at the elbow and wrist J J. The wrist is articulated with a ball and socket firmly united by catgut tendons F G H, tensely drawn over the convexity of the shaft E at the elbow. It has *every motion* of the natural wrist. The hand rotates on the Fore-arm, being susceptible of pronation and supination, or any angle or degree of flexion and extension desirable. The extensor tendons K L M N O, acting with the springs 1 2 3 4 5, open the hand. The detached ball and socket joints of the thumb and fingers are indicated by the figures 1 2, and 1 2 3.

The fingers are articulated on steel rods and pinions imitating the bones, as seen in the thumb and the first and third fingers. The exterior is brought to a perfect imitation of the natural arm (as shown in the outline, or in Fig. 5), by a soft elastic substance, which rotates around the Fore-arm, preserving anatomical symmetry in every position. It is covered with a delicate skin.

FIG. 2, is the same arm extended, with the fingers semi-flexed. The belt A attaches the arm to the body. The small belt C C is connected by a tendon to a clasp and pulley D E. The great muscle F is the continuity of the flexor tendons G H I J K. These tendons pass sinuously over pulleys, or fixed sheaves, 1 2 3 4 5, through the hand to the end of the fingers and thumb. The principles of the lever and pulley are thus *combined*, and the *maximum power* retained at all angles of flexion or extension. A slight motion of the shoulders, with extension of the Fore-arm, produces an incredible grasp, as seen in Fig. 3.

An object of any shape, such as a pen, a fork, or an apple is held with facility. By a slight motion of the shoulders, the belt A B causes the great muscle F, and its tendons, to contract *powerfully*, closing the hand. A movement easily and naturally made, actuates the tendon C C, and fastens the clasp D upon the muscle, so as to retain the grasp in any position or motion of the arm when in use. This is regarded as invaluable for holding reins in *driving*, or carrying articles with *safety*. An easy counter motion *unfastens the clasp*, relaxing the flexor muscle and its tendons, and the extensors open the hand. This principle performs most perfectly in an arm applied below the elbow as in Fig. 3.

FIG. 3. In this are seen the belt A B C, the great muscle F and its tendons, the clasp and pulley D E, as in Fig. 2. A fixed eyelet F 2, clasps the great muscle F, and thus guides the flexor tendons of the fingers. The line 1, shows the union of the natural with the artificial arm.

FIG. 4, shows a hand holding a fork. The tendon A A 2, passes through the clasp B, and around the pulley C, to the side of the clasp D, where it *fastens* or *unfastens* the clasp by movements before explained. The joints of the fingers and thumb are flexed upon the fork by powerful tension of the great muscle and its tendons. The sinuosity of the tendons passing over the pulleys, or sheaves, E E E, shows the new and useful principle of effectually combining the lever and pulley to gain the *utmost power, strength, elasticity, and adaptability* to the various uses of an Artificial Arm and Hand. They are easily adjusted by the wearer.

## SYNOPSIS

OF

## PALMER'S PATENT ARM AND LEG.

PALMER'S PATENT ARM AND LEG are composed of a great variety of such materials as most effectually combine to give perfect imitation of the human limbs. This combination of substances, all experience has taught, produces a much lighter, stronger, and comelier artificial limb than can be made chiefly of any one material. Wood, metal, gutta-percha, and India-rubber, have all been tried, again and again, and been abandoned by all mechanics competent to construct, and also by all experienced wearers of false limbs, who can duly appreciate the qualities of perfect substitutes.

These inventions differ radically from all other false limbs, and are fully protected by various patents. They are so symmetrical and life-like in appearance and motion as to be often mistaken, when in use, for the natural limbs. The internal mechanism is so perfectly combined, and the polished exterior so exquisitely colored and finished, that silk gloves or hose may be worn without betraying the work of art.

The external skin, though delicate in appearance, is very strong. It is indissolubly cemented without perceptible seam, and rendered impervious to water by a beautiful skin-tinted enamel, which is rivaled only by the tints of Nature.

The mechanism is adapted to all forms of amputation, whether above or below the knee, or through the foot, and is successfully applied to the shortest and tenderest stumps. It is attached to the body in a manner which insures entire comfort.

The distinguishing characteristics of these Patent Limbs are life-like elasticity and flexibility, excessive lightness, durability, adaptability, and perfection of external appearance. These elements have been accorded to them by the first Surgeons of America, England, and France, and by nearly three thousand mutilated persons, who are now in the daily use of these Inventions.

The ARM is an original invention, which has cost years of study and experiments. It has been duly tested by numerous ladies and gentlemen, and pronounced equal to the Patent Leg. See the letter of Prof. Thos. D. Mütter, M.D., LL.D., recently deceased, on another page.

## EXTRACT

FROM THE WORK ON

## OPERATIVE SURGERY,

BY ALF. A. L. M. VELPEAU,

Prof. of Surgical Clinique of the Faculty of Medicine of Paris; Surgeon of the Hospital of La Charité; Member of the Royal Academy of Medicine, of the Institute, etc.

Fourth Edition, with Notes and Observations, by VALENTINE MOTT, M.D., Emeritus Prof. of Surgery in the University of New York; and Additions, by GEORGE C. BLACKMAN, M.D., Prof. of Surgery, in the Medical College of Ohio.

*Artificial Legs.*—After a patient has submitted to an amputation of his limb, he very naturally inquires of the surgeon what is the best substitute he can suggest for him, and we know that this question has often given rise to much perplexity. As to the lower extremity,\* we now have it in our power to furnish every desirable information upon this point, and for this we are indebted to Mr. B. Frank. Palmer, the inventor of the artificial leg which has won the admiration of the most prominent surgeons in Great Britain, France, and this country.

“During the Great Exhibition in London, 1851, we had an opportunity of inspecting the large number of artificial limbs there presented, and we know that there was but one opinion as to the vast superiority of Mr. Palmer’s invention to any hitherto offered. In a word, Mr. Palmer bore away the palm, the adjudicators being, among the rest, no less than the distinguished surgeon of *St. Bartholomew’s Hospital*, Mr. William Lawrence, and the renowned veteran of the *Hôtel Dieu*, Roux, recently deceased. We confess that, after walking some distance with Mr. Palmer, we did not in the least suspect that he had himself been provided with one of his own artificial limbs, yet such is the fact. This certainly is one of the greatest triumphs of American ingenuity.

“We copy from a pamphlet issued by Mr. Palmer, the following description of its peculiarities, remarking at the same time, that through his politeness and liberality we are enabled to present to the reader an internal view of this beautiful piece of mechanism. We also insert the following views of Mr. Palmer, which have special reference to the *comfort* and *usefulness* of the mutilated who may desire to avail themselves of his substitute.” (See article *Compensatory Art.*)

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\* The arm not then invented.

# ANAGRAPHS

ON

## SURGICAL PATHOLOGY AND SURGERY OF THE EXTREMITIES.

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BY E. D. HUDSON, M.D.

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Mr. Skey nobly recognizes and commends in the practice of Surgery, the growth of tenderness and sympathy for patients, and congratulates the profession on the humanity which is happily beginning to characterize every truly great surgeon. *Comme il faut.* I, too, would note and announce the fact, as the harbinger of a wiser generation and better days.

It may be proclaimed as a truism, that the quickening exercise of sympathy and humanity, have their legitimate correspondences, manifested in the study and progress of science, and improvements in art; the exhibition of one being always commensurate with the tone of the other; hence, wherever "wisdom is heard crying in the streets," the voice of humanity will respond in sympathetic tones, and philanthropic assurances. The truly great surgeon, enlightened by wisdom and inspired by goodness, receives not the *ancient of days* as his *autocrat*, nor heeds the *esprit de corps* in his professional career (the strictest construction of the law of necessity alone impelling him); hence, mutilations are much less frequent and extreme, and preceded always by the most philosophical considerations and deductions, that the same wisdom and humanitarian spirit which interpose to save life (though at the expense of limb), will elaborate mechanical appliances for lost parts, so beautiful and perfect in anatomical construction and physiological functions as to render nature's loss comparatively light; thus enabling the sufferer to maintain his position in society, both usefully and pleasurably.

It is only when Nature is stricken down and disorganized in such a degree as to preclude all enlightened probability of her recovery, that amputations are practiced, and then only in extent, as the casualty or disease requires. *Men are running to and fro*, and learning many things due to themselves; consequently, it is daily becoming more and more hazardous for any one unenlightened to attempt to practice upon others what he would recoil at, as criminal, if performed upon himself. A life-long deprivation of an arm or leg is not an event to be cursorily considered, or indifferently consummated; and no amount

of *éclat* should insure the surgeon from extreme reprobation who sacrifices limb without cause.

Every worthy surgeon will appreciate and magnify such a principle, and in turn be appreciated and magnified by his own wise efforts and power to save; and if amputation is adjudged indispensable, the line of demarkation between the diseased or injured, and the healthy uninjured parts, will be fixed upon as the place of election; not only with an eye to the lesser risk of life, but to the greatest length of stump possible, which is compatible with the most favorable application of a perfect mechanical limb.

With the present knowledge of the fact that the shaft of the stump, and its muscles, must constitute the lever and power for the propulsion of the substitute, and that its offices, when scientifically constructed, *may* be performed perfectly (more or less in keeping with the functions of the natural leg or arm, depending *à priori* upon the length and power afforded by the stump)—the *place of election* becomes supremely enhanced in importance therefrom.

When other things are equal, the surgeon of ancient procurement and blear-eyed philanthropy is readily distinguished by *his living witnesses of woe*, which are characterized by unnecessarily extreme mutilations at the *old place of election*, and by an apparent disregard of the revolting consequences and destiny with a peg leg, or some other equally repulsive device, in striking contrast with the well-studied, useful, and beautiful model stumps, dictated by the wisdom and goodness of the modern surgeon, with an eye to an unique substitute. The place of election is inferentially indicated by humanity, science, art, and domestic and social economy; as affording the utmost capability of the stump, with an Artificial Leg at once anatomical in design and performances. Beginning at the remotest part of the extremity, the surgeon retreats upward, from part to part, only as disease or casualty constrains him, and after the phalanges marks the tarso-metatarsal line, as *first*, THE PLACE OF ELECTION (HEYS). This election (albeit, extended so as to involve a considerable portion of the tarsal bones, yet retaining a sufficient amount of the insertions of the flexor of the foot and extensor muscles of the toes, to antagonize the *extensors of the foot*) secures a natural advantage to the patient for a very useful substitute, which will not be in great danger of a sacrifice. The work of art for the lost portion of the tarsus, the metatarsus, and phalanges, when aptly constructed and adjusted, capacitates the patient to gain the same distance in walking without halting as with its fellow, and also to satisfactorily disguise the loss.

The generally endorsed teaching of the schools, and not unfrequent practice of surgeons to amputate the foot (after the manner of Chopart) at the medio-tarsal line, and as often to involve in the sacrifice



not only the five lesser tarsal bones, but also a portion of the calcaneum and astragalus, the entire functions of the flexor muscles of the foot and extensors of the toes, thus to subject the stump to the exclusive action of the *gastronemii* muscles, and constant elevation of the heel, and other unfavorable sequelæ, is now regarded as of questionable expediency, to say the least. The frequent *prejudicial* results of this species of mutilation, too afflictive to be borne, often requiring reamputation, of a surety more than counterbalance the favorable; nor does its modification, as by Pirogoff, render the result more advantageous. Among the numerous instances of mutilated feet through the tarsus, which fall to our care for treatment, it is seldom that we are able to designate a perfectly satisfactory stump, one to be preferred to what might have been made of parts contiguous. Nine-tenths of the mutilations, as by Chopart, present one or more of the following diagnostics, to wit: *First*, of an insufficient covering; caries, more or less, of the remaining tarsal bones; ulceration of the surrounding soft parts, or that of a thin shining pellicle of covering, exceedingly susceptible, quickly inflamed and abraded by the least exposure, which renders it hazardous or difficult to attempt the application of any substitute. *Second*, a total inability to flex the stump, and to preserve its normal position at a right angle with the line of the leg; a morbid contraction of the *gastronemii* muscles (without antagonism), and retraction of the heel; a pendent position of the end of the stump, and exposure of the cicatrix to be pressed to the ground by the weight of the body, with its general inutility for walking. No possible advantage can be obtained by an amputation of the foot which involves in the sacrifice the greater portion of the tarsus, but what will be largely enhanced by a well-timed operation at the *ankle-joint*, after the mode of Mr. SYME: therefore, by every consideration of humanity and art, I am led to regard that site as the one which should be designated as the SECOND PLACE OF ELECTION. (See Messrs. Syme, Ferguson, and Skey on Practical Surgery.)

Monographs of American practice, etc. (more especially of New York City Surgery), and interesting cases, may be found reported in the *New York Journal of Medicine*, February, 1850, November, 1857; also May, 1858, from which we extract the following, to wit:

"It may fairly be questioned if operative surgery has in any instance made a more important advance toward the realization of its humane purposes of saving life and restoring useless limbs, than in this single particular of amputation at the ankle-joint.

"Mr. Syme remarks: 'Patients who had suffered this operation, were able to stand, walk, and even run, without any covering or protection of the stump; and a gentleman present, having had his atten-

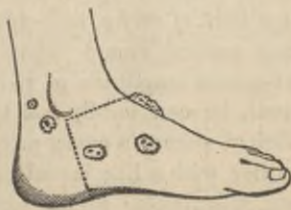
tion accidentally directed, a few days before, to some boys who were amusing themselves on a slide in the street, discovered that one of them had undergone amputation at the ankle joint.' Mr. Syme seems to prefer this operation to that of Chopart. In some clinical remarks published in June, 1852 (*Monthly Jour.*), he remarks: 'In the girl, fourteen years of age, who is now before you, there is extensive disease of the tarsus, not leaving room for the performance of Chopart's operation, even if I deemed it expedient; which I have long ceased to do, from conviction of its inferiority to that of the ankle, especially in regard to the protection afforded against relapse. In one year alone, I performed three secondary amputations at the ankle, to remedy the sequelæ of Chopart's operation.'

"A man presented himself at Bellevue Hospital during the last winter, who had undergone amputation at the ankle-joint, by Dr. Carnochan, a year or more previously. He was a book-peddler by occupation, and stated that he not unfrequently walked eight miles daily, without fatigue or inconvenience from his mutilated limb. He had but a very slight limp. He wore a short shoe, with the sole raised sufficiently to compensate for the loss of the foot."

We take pleasure in inserting the following case communicated to us by Dr. Tewksbury, of Portland, Me., of an ankle-joint amputation performed under an adverse condition of the integumentary and articular portion of the parts surrounding and constituting the ankle-joint, to wit:

"Mrs. H— is thirty-three years of age—of marked strumous diathesis, and much emaciated. My attention was first called to her June 10, 1856. She was then suffering from a disease of the left foot, caused, she said, by a sprain received three years before, and commencing with severe pain and swelling on the outer portion of the instep, which continued until suppuration occurred, and small abscesses, having little sinus-openings, were formed in various parts of the foot, like those often seen around scrofulous joints. Of these sinuses there were eleven—each having unhealthy, purple edges, and admitting a probe freely into the substance of the tarsal bones, more particularly into the calcaneum, cuboid, and the anterior and inferior portion of the astragalus. The soft parts around the foot and ankle were diseased as above described. Amputation, under these circumstances, appeared the only chance for recovery. The extent of the disease rendered Chopart's operation impracticable; consequently, following the ordinary practice, amputation should have been performed at the lower part of the leg, above the ankle. The published recommendations of Prof. Syme, of Edinburgh, in favor of the ankle-joint operation, induced me to select that as the site of the amputation. In this case, however, the extensive adhesions of the integuments over the tuberosity of the os calcis and the numerous sinuses around the malleoli, through that portion of the skin that was to form the posterior flap, served to render the proceeding somewhat hazardous. Numerous fears were entertained, both by myself and the professional gentlemen who were in counsel with me, that the malleoli,

and possibly the articulating surface of the tibia, were diseased. Notwithstanding these objections, I was so well satisfied of the advantages this operation would afford, by giving a *broader, firmer, and better base for supporting the weight of the body*, and the greater facilities that the thick cushion formed by the heel would give for the adjustment of an artificial foot, that I determined to amputate there. Having placed my patient in a proper position, and put her under the influence of chloroform, I seated myself directly in front of her, and holding my scalpel in the left hand, I made an incision from a little behind the internal malleolus transversely across the sole of the foot, to a point near the middle of the calcaneum. Then, with my right hand, I made a similar incision from the corresponding point of the external malleolus, to meet the first. Then, after making a curved incision from the commencement of the first to that of the second, across the superior surface of the foot, I divided the extensor tendons and the articular ligaments, and turning the foot down, I carried the knife through the tibio tarsal articulation, and separated the tendo Achillis from its osseous attachment with some difficulty, owing to the strong adhesion of the integuments and their thin and unhealthy texture. *Great care was taken to avoid cutting the posterior tibial artery before its divisions into the two plantars*, on a line with the articular surface of the tibia. The foot being removed, the ends of the malleoli were taken off with the cutting forceps and the flaps brought together. The anterior, and a branch of the posterior tibial arteries were the only ones that I was obliged to secure. As we supposed, the malleoli were diseased, but the articulating cartilage of the tibia was healthy, and, consequently, was not removed. Owing to the unhealthy condition of the integument forming the posterior flap, and the difficulty of adjusting the cup-shaped covering of the heel, to the square surfaces of the tibia and fibula, I was apprehensive that suppuration, and possibly sloughing, would occur; consequently, with the knife and cutting forceps, I rounded the stump so as accurately to adapt it to the concavity of the flap. I also removed the synovial membrane covering the articular surface of the tibia, lest its secretion should retard the adhesion of the flap. The wound healed in fifteen days, with but very little suppuration, and in thirty days the patient was able to bear her weight upon the *stump*. In about three months from the operation, she was taken to Messrs. Palmer & Co., and an artificial foot was adjusted, giving the whole weight of the body upon the end of the stump, and now she walks so well that a close observer would never suspect that she was any way mutilated.



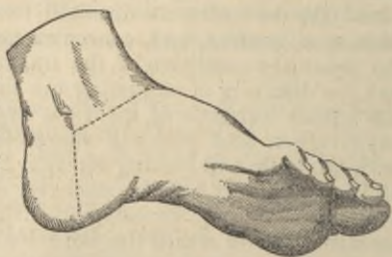
"The preceding cuts illustrate the appearance of the foot at the time of the operation, with its fistulous openings, the manner of operating, and the character of the stump after recovery.

"Mr. Syme directs the articular surface of the tibia always to be removed. This, certainly, should be done, if the disease has attacked the part; but, if healthy, it seems to be unnecessary. In the third case, which we report, the extremity of the tibia was removed, but without any apparent benefit as respects the result.

"The following wood-cuts, of reduced size, taken from similar illustrations in the *Monthly Journal*, February, 1850, of Mr. Syme's mode give a more correct idea of the line of incision than can any verbal description. It will be seen that they differ very materially from those given in text books.

"It is constantly alleged that this operation is difficult and tedious. We believe, however, that it may be executed with as much facility as the circular amputation of the leg. Mr. Syme states that he requires less time than a minute to perform it.

"*Accidents.*—The principal precaution to be observed is in the dissection on the posterior part of the os calcis, in order not to wound the posterior tibial artery, and thus deprive the flap of its nourishment."



### THIRD PLACE OF ELECTION.

When compelled by the ravages of disease or extreme casualty to recede from the second standpoint, and select a position higher up the limb, the surgeon will contend heroically for every line of healthy space above the middle of the *lower third of the leg*, and obtain for his patient the most perfect stump which can be constituted. With such amplitude of parts, other things being equal, he can hardly fail to secure a model and efficient stump in every proportion, which, in connection with a like model and effective Artificial Leg, will redeem to the patient *apparently* every whit of loss. Such practical results are now of



common occurrence, to the unspeakable gratification of both surgeon and patient, and afford the greatest incentive for the exercise of skill and humanity. The cut illustrates a model stump, made by a distinguished surgeon of one of the New York City Hospitals.

#### THE FOURTH PLACE OF ELECTION

Is within the space of the middle third of the leg, which affords an opportunity of obtaining a very satisfactory and serviceable stump. A double semilunar flap, anterior and posterior—(the incision for the latter being extended upward diagonally to remove a considerable portion of the fleshy part of the gastrocnemii and soleus muscles when they are largely developed), sufficient to invest a length of bone for leverage of five or six inches from the patella, will compose a stump but slightly secondary in efficiency for the most active service of labor, or natural operations in walking with a suitable appliance. We dissent most emphatically from Mr. Fergusson's reasons for *preferring the middle third of the leg, when the surgeon has a choice of site!* as being faulty in principle, and comparatively infelicitous in its practical utility.

We anticipate the most important and beneficent results from the investigations now in progress by the Surgical Society of Paris, and its *résumé*, respecting the place of election—*when the surgeon has the choice of site,*—in the improvement of operative surgery, and the benefits to the mutilated, for the greatest availability of artificial limbs.

#### THE FIFTH PLACE OF ELECTION

May be indicated at or near to, the *lower part of the upper third* of the leg, as affording space to obtain a stump of the length of four inches; a leverage which will prove invaluable for the application and use of a well-made artificial leg, with a socket adjustment. The advantage which will be achieved for the patient, by securing the greatest length of stump possible at this point, can never be overlooked nor discarded with impunity. So intensely desirable is it to retain the use of the natural knee-joint with mechanical agencies, that not infrequently a demand for the adjustment of a leg with a socket has been created, when an adverse length of stump, intentionally, yet unnecessarily made at the *middle of the upper third of the leg*, prohibited it. The benevolent surgeon will consult the natural desire and true interest of his patient, prior to an amputation; nor will *pecuniary inability* be allowed to interfere in the election of site, with reference to any inferior mechanical limb, any sooner than to intercept his greatest and most humane service.

With the necessity for extending an amputation higher up, even through the head of the tibia, an advantage may be acquired for the

patient with the stump flexed, and retained at a right angle with the thigh, on a line with the condyles of the femur, which will prove more satisfactory than any truncated part above the knee. To such a stump one of the most valuable appliances, with a knee support and artificial joint, may be affixed (without elongating the thigh, perceptibly), which, in its imitative offices, will correspond admirably with the natural leg. *A knee-supporting Artificial Leg* constitutes an efficient and natural appearing dependence.

#### THE SIXTH PLACE OF ELECTION,

At the KNEE-JOINT (Hoin's mode, modified by Mr. Syme), has been revived of late, and adopted by very many of the more enterprising surgeons of both continents, with success. Whenever a good covering of the condyles of the femur has been secured, with a perfect union of the parts (to procure which, the removal of the articular surfaces of the condyles is a safe expedient) an excellent and serviceable stump will be the result. The following apposite paragraph from "*Fergusson's Practical Surgery*," will suffice on this point, to wit: "There are many instances of incurable disease of the knee-joint, *where the serious mischief is limited to little more than the articular surfaces. In such cases, however great the surrounding swelling may be, as also in all examples where the whole of the leg must be sacrificed, whether from injury or disease, Mr. Syme proposes to substitute this operation for the proceedings hitherto performed higher up; and in several cases of the kind which he has published, and many occurring in my own practice, the results have been so satisfactory, that I am disposed to consider the operation well worth the attention of the profession.*" The Artificial Limb designed for the *knee support*, when the operation has been performed *below the knee* at or near the head of the tibia, will prove similarly serviceable in these cases.

#### SEVENTH.

That there is a reprehensible degree of carelessness or ignorance on the part of many surgeons in their operations at the thigh, *their works testify.* Every day's observation and experience witnesseth the *unnecessary sacrifice of the bone of the femur*, when there has been no disease or injury of the leg, so high up as to involve even the knee-joint, or to preclude an operation lower down, solely for the lack of surgical skill in saving a flap or covering. The many ingenious methods which have been devised and executed in almost every surgical exigency, for obtaining a sufficient investment of muscle and integument of the bone, either of the thigh, leg, knee and ankle-joints, can hardly fail of becoming a swift witness against the surgeon who fails in any such contingency, at the expense

of his patient. To save for the unfortunate every portion of a wrecked limb which will prove serviceable, and to ameliorate their condition by the most perfect appliances, should be every surgeon's highest aim. *Lastly, the election of proper substitutes for lost parts, becomes a matter of weighty concern with every practical man of the profession.*

The SURGEON-JURORS of the World's Great Exhibitions in London, 1851, and New York, 1853, evidently possessed both a scientific and humane view, when they congratulated the world on "the great success which had been obtained in supplying the loss of a lower limb, in the admirable mechanism of Mr. B. FRANK PALMER'S *Artificial Leg*," also the Royal Commissioners, who distinguished it from every other device of the kind, of *the old world and the new*, in the bestowal of the PRIZE MEDAL'S of each exhibition, "*for its successful imitation of the motions of the joints*" of the natural leg, as an unique boon to surgical art and the mutilated, of whom more than three thousand persons (of every age, sex, and condition,) are joyfully realizing great advantage in their necessity by the use of this substitute for any part of one or *both* limbs.

In this mechanism, by Mr. Palmer, we have combined with the contour and color of the natural leg, great strength, stability, elasticity, durability, and lightness; the most perfect imitation of the action of the hinge-joints of the natural knee, ankle, and toes. In the internal arrangement of the *representative parts* of the more important flexor and extensor muscles of the natural limb, and their functions in walking and standing which are exhibited, there has, in no other instance, been so perfect an achievement, to wit: *First*, of the quadriceps femoris for extending the leg in walking, etc.: *Second*, of the semitendinosus, semimembranosus, biceps, etc., to suspend and antagonize the extensor action at the knee, give reliability to the knee-joint in standing, prevent the solid parts *there* from coming in contact in walking, and the consequent unpleasant concussion peculiar to other constructions, to prevent which cork and rubber are *ineffectually resorted to*: *Third*, of the gastrocnemii muscles, etc., and the tendo Achillis, to sustain the weight without limping in progression, and afford a life-like elasticity, and reliability in the action of the limb: *Fourth*, of the tibialis anticus and peroneus tertius, to flex the foot when the weight of the body passes from it on to its fellow, preserve it at a right angle with the leg, and enable it to proceed over any impediment: *Fifth*, of the peroneus longus, tibialis posticus, and flexor digitorum pedes, to compel the toe to hug the ground, while the weight of the body is propelled forward, and thus assist in attaining an equal distance for its fellow without halting. Such is the Palmer leg, which, as a *mechanical compensation of lost parts*, is unparalleled.

The same principle should govern the surgeon *in the choice of site*, for an amputation of the arm, fore-arm, and hand, as in amputations of the inferior extremity, to wit: *save even unto the uttermost.*

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## COMPENSATORY ART.

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BY B. FRANK. PALMER.

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SURGICAL Science has hitherto held, as by the law of primogeniture, the long-conceded right of precedence and preëminence over its inseparable ally, subsidiary Art.

To establish systems and teach important truths *within the exact circle of medical and surgical science*, has been the work of professors in the science of Healing, while the important auxiliary and connecting link in the chain of beneficent agencies, *compensatory Art*, has been almost wholly ignored as a lower and comparatively unimportant branch, to be conducted as the most incompetent artisans, entirely ignorant of Anatomy, and even of the laws of Mechanics, might deem proper. Thus a profession which theoretically claims equality with the highest in the ranges of surgical and collateral science, has been degraded to the level of the lowest mechanical vocation, and, indeed, finally left without "a local habitation and a name." In the ranges of the superior arts perhaps there is *none* in which high originality of design and masterly ability to execute are more imperatively demanded than in the faithful and efficient discharge of the duties of this profession; yet, in none has there existed so long a palpable manifestation of *utter ignorance*, as in devising, constructing, and applying automatic mechanism in reparation of lost parts of the human body. Even so late as the year 1846 (when we first introduced the self-acting Artificial Leg), there was not to be found on record, in the English language, a description of any substitute which could properly claim the name of a Limb. We had, therefore, to commence the invention with but very little to guide, except unsightly and inadequate appendages, which being the *terror* rather than the comfort of the unfortunate, served at best only to show the course we must *not* pursue in the labyrinths of discovery. How well we succeeded may be inferred by the perusal of the scientific reports herewith submitted. We had no model indicating external comeliness or symmetry to imitate; no internal mechanism giving adequate action; no articulations resembling the natural joints to suggest *improvement*: but, on the contrary we had, (to divert from the legitimate pursuit), an untold number of grotesque and non-descript appendages called "Cork Legs," and constructed variously of iron, steel, tin, copper, brass, sheet-iron, gutta-percha, india-rubber, leather, wood, and indeed every workable material except *cork*, showing almost an infinite variety of impracticable devices, which having fallen into disrepute, indicated but poor promise to the copyist who



would attempt to improve any of them, and perhaps *poorer still* to the inventor, who discarding them all should attempt to construct on a radically different principle, copying Nature's mysterious mechanism, the complexity of which remained alone uncopied in its functions, and seemed to defy artistic imitation. Without a single important and practical advance *upon a sound basis*, and with no reliable scientific guides, the task seemed indeed unenticing in its character and unpromising in its results.

We commenced the invention with many misgivings, as various *unfinished* limbs commenced at different times might testify, till at length, proving by personal experiment the inadequacy of the best substitute then known—the Anglesey Leg—we determined as a last resort to complete the invention, taking the natural limb as the model.

To imitate successfully a human member (so beautiful in its external form and complex in its internal mechanism) with inanimate bones, muscles, tendons, and cuticles, requires no small degree of anatomical, surgical, and artistic knowledge. For this knowledge we have been studying and laboring with the hope, by the aid of efficient colleagues, of ultimately placing the profession on a level with the highest position to which its importance entitles it. The surgeon who *skillfully* removes the obnoxious limb, and the surgeon-artist who *successfully* repairs so great a loss, should be regarded as filling offices of coordinate importance, and each should be the colleague of the other. This, however, can only be the case when the latter is fitted by education for the responsibilities of the profession—an education not easily obtained, as the knowledge is taught neither in books nor in medical colleges. It is a subject worth the attention of the Medical Faculty. Is it not strange that a subject of such paramount importance should have been so long neglected in the halls of learning? From the Medicine-god *Æsculapius*, or later, from the immortal Celsus, or later still, from the learned and beneficent Parè, or from some cotemporary *mechanicians*, it would seem that we might have derived some reliable instruction in the correct method of supplying lost members. But such is not the case. On the contrary, the rudest possible form of a substitute, the simple peg, has been allowed to indicate the place of amputation for *its* uses, and thus, strange though the statement seem (its truthfulness is more so) many eminent surgeons since the time of the illustrious Parè (about 1560), have obsequiously followed the advice of a certain *Captain Clerk*, of that time, and *not* the advice of the great surgeon; for Parè said "you shall cut off as little of that which is sound as you possibly can," being governed however, "by the action of the rest of the part," which often changes this counsel, for you shall so operate that the "patient may *most fitly use the rest of his leg by walking on an artificial one.*"

The *wooden peg* was the only useful substitute known in that age, and it appears that Parè adopted the old "place of election," at the instigation of *Captain Clerk*, who having had a foot shot off by a ball passing through the ankle, "caused the rest to be cut off some five fingers breadth below the knee," in order to flex the joint and place the knee on the socket of the peg in such a manner as to *conceal the end of the stump*. This fact will show that though the art of supplying such losses was not understood, yet the wisest of surgeons have always amputated with reference to this ulterior treatment. It establishes

the law of mutual dependency between surgical science and compensatory art, and shows that it is only by the harmonious blending of the two offices that the future happiness of the patient can be secured.

Art is, therefore, the potential ally of Science in works of human benefaction, and it is *proper*, as well as *essential*, that they should go hand in hand. And so they will, as there is an essential fitness of all things, and, in the proper time and place, men, and their works find their true level in their respective positions.

The present is an age of *inventions* and *exhibitions*. The International Exhibition in London was an epoch in the world's history which disclosed the sinews of power in the arm of the useful Arts. The inventor and the artisan were then, for the first time, duly honored, and their *rights* fully conceded. If we may be allowed to express our personal feelings, we should unhesitatingly say that our efforts have been fully appreciated and our successes generously acknowledged, while there seems to exist, on the part of our patients, a desire to justly remunerate our arduous labors.

We have spared neither time, pains, nor money in the prosecution of our design; we have solicited investigation and competition before every scientific society and exhibition where such an invention could have an impartial examination and award; we have displaced all other forms of artificial legs to apply this; we have treated every conceivable form of amputation, until *over three thousand* of these limbs are in daily use, and at this time there is demand for about four hundred to be made annually. To be prepared to the utmost for so liberal a patronage, we have secured every facility discoverable by the study of works on Surgery and Anatomy, by visiting various medical colleges, hospitals, and scientific institutions in this country, also in England and France; and we have become familiar with all forms of mechanical limbs which have the least practical value or reputation.

Without a desire to disparage the *laudable* efforts of others, we would direct the considerate attention of surgeons, and the unfortunate, to the *results* of all this research and labor, which, we believe, are fairly indicated by the scientific and surgical reports herewith submitted.

We commenced the work distrusting our own ability and but half appreciating the value of the invention. We have been, all the way along, encouraged by finding the leg better and more satisfactory to our patients than we, in all the enthusiasm of the first accredited success, dared hope for. This has given, at length, an abiding confidence in our ability to do to the utmost all that the present light of science and art enables man to do in restoring the lost parts of the human body which we attempt to supply. It may be that the series of discoveries in which we have been for the last twelve years progressing, is *unending*; if so, being always desirous of proving the works of the present imperfect by producing those which are *better*, we shall *work* on and *plan* on, hoping, while in the midst of such facilities as were never before enjoyed by any in the profession, to keep pace with the march of discovery in the agencies of human amelioration. It must be obvious to all that a practice so extensive cannot fail to offer the utmost advantages, and as the *patents* secure to us the right to construct the limbs of "*any suitable materials*," we are not confined to wood, metal, or any other particular substance, but can com-

bine any or all of the known substances that are suitable, and yet retain the *perfect form and principles of action* which are the subjects of the patents.

For the benefit of surgeons who are not permitted to listen to the instructions relative to amputations as *now* given by distinguished professors, we would say that the rules we have established, which are published in this JOURNAL, are generally adopted by the Medical Faculty, and we have already, as the result of our efforts in this direction, had the pleasure of treating *hundreds of long and beautiful stumps, perfectly adapted to the best forms of substitutes*, yet in which cases a lack of this necessary knowledge on the part of the surgeon would have left the sufferers *hopelessly* without the *best* use of false limbs. The heart-felt gratitude expressed by our numerous patients, in such cases, gives the most ample and gratifying reward.

The Cuts of the Arm and Leg, though beautifully executed, give but an imperfect idea of the fundamental principles. It would require a book of this size to illustrate the various appliances and modifications adapting them to the varied requirements, consequently we reserve such elaboration for a subsequent occasion. We deem it necessary to intimate this, so that our patients may not think the mechanism wanting, in any case, if it shall not be found to be the same as herein represented. *Each particular case* will require specific treatment, and perhaps not *one* precisely what is now shown. The specifications and drawings in the Patent Office are much more elaborate.

We may safely say that, during the last thirteen years, we have constructed at least fifty varieties of arms and legs, each one of which might be termed an Invention. But we have found much more to *reject* than to *adopt*, in the way of novelty. While thus pursuing the doubtful labyrinths of discovery, we have for years refused to construct the arm, for our friends, even at excessive prices, feeling unwilling to imperil our reputation in giving them a limb of doubtful utility, however *beautiful* it might be. This has led to the present dilemma, of inability to supply the demand for arms.

The cuts, we repeat, only indicate a portion of the *leading principles*, their *ingenuity* and *novelty*, but not the *utility* or *adaptability* of the inventions. All necessary information, in each case, will be given by letter.

We are eliciting all possible information regarding the best method of amputating arms, and will give the results of our experience in the next number of this Journal.

We have now made apparent the affinity that exists between Operative Surgery and Compensatory Art, and believing, as we do, that in all coming time there will continue to be a harmonious interchange of correct theoretical views, as well as practical coöperation on the part of the two operators, the patient may confidently expect to reap largely the growing benefits to be derived from the united skill and ingenuity of the surgeon and the surgeon-artist.

## INFRINGEMENTS—CAUTION.

SEVERAL PERSONS have opened offices in different sections of the country for the sale of limbs which are palpable infringements of our patents, and suits at law are being instituted to restrain their illegal proceedings. In some of these instances the individuals are those who have been in our employ. Workmen who were unable to manufacture the limb in such manner as to gain our confidence, because of their inefficiency, or lack of integrity, have the temerity to urge upon the unfortunate their clumsy imitations of our limbs as *improvements* or *original inventions*—thus defying the law, and doing great injustice to a class of persons whose misfortunes are only rendered the more unendurable by their awkward attempts to repair them. *To enable them to deceive most effectually*, they publish our name and the fact that *they have been in our employ*, thus abusing our reputation while appropriating most fraudulently to their own use an invention, to perfect which has cost many years of unremitting toil and study, together with an outlay of a very large amount of money. If these persons possessed any suitable inventive or artistic skill, or were honorably attempting to benefit the unfortunate, or themselves, *by making a more perfect limb*, we should feel bound by the considerations which first incited our own endeavors, to extend to them the hand of friendship and bid them good speed in a labor so laudable. But thus far we do not know of an instance, among this ephemeral growth of leg-makers springing up all over the land, in which it does not appear evident that the incentive to this illegal traffic is the hope of *pecuniary gain*. Such being the object, the unfortunate will see small chance of *their* being the parties most benefited if such mechanics are employed to construct for them a copy of a human member which requires such exquisite mechanism. These infringers being restrained by the United States Courts will shortly be obliged to *abandon the business*, and it may be proper here to state that all persons *using* such limbs are liable at law as well as the persons *making* them. A patentee has the same legal right to proceed against the *user* as against the *vender* of a patented article. Most deeply should we regret to subject any person to trouble or expense who had thus unknowingly purchased a limb which he had no legal right to use, and for this reason we feel it obligatory on us to caution the public against the imposition of *counterfeiters*.

We have been established in the business more than twelve years, during all of which time the most eminent scientific men and surgeons of this country, also in England and France, have fully recognized the *originality of the inventions*, and our rights as secured by the patents. It is this *accredited originality* which has elicited the unparalleled number of honorary awards and medals which we have received. It has also excited the cupidity of lawless infringers, who must not longer proceed with impunity. We wish here to cite a series of attempts to rob us of what we esteem above gold, and to show also how our scientific friends have stood by to protect us from all harm.

*First.*—At the Great Exhibition in London, in 1851, an imitation of this leg was placed in competition, by an English mechanic. The Royal Commissioners (of whom were the eminent Drs. Green and Lawrence, of London, and Roux and Lallemand, of Paris), after an examination of both limbs, set counterfeit aside without a word of

favorable comment in their report, deciding that it was an infringement of our patents, and had no claims to notice, however well it might be made.

*Second.*—At the Triennial Exhibition of the Massachusetts Charitable Mechanic Association, in Boston, Oct., 1847, the same course was pursued by the eminent Drs. Luther V. Bell, Winslow Lewis, Jr. (and others of the committee), in the case of an individual from New Hampshire, who had placed a copy of our limb there for competition. No favorable report was made for the infringement, and it never reappeared.

*Third.*—The same was also done, substantially, by the Scientific Committee of the Franklin Institute, of Philadelphia, at four consecutive exhibitions from 1847 to 1850, at which exhibitions several individuals of this city had placed limbs that were infringements of our patents. Here also no favor was shown to the infringers, and they then left the field of competition. Prof. Thomas D. Mütter, Prof. B. Howard Rand, and others, were the jurors.

*Fourth.*—At the Fair of the Maryland Institute, in Baltimore, 1851, similar infringements met with similar failures, and the disappointed manufacturers retired from the exhibitions of that Institute without commendation by the jury, of which Prof. Smith was the chairman.

*Fifth.*—At the Fair of the American Institute, New York, in October, 1857, the old offenders having left (after so many failures), two new specimens were presented in competition, both of which were palpable infringements. In this instance, also, as will be supposed, the precedent which had been so well established in Boston, and confirmed in London, Philadelphia, and Baltimore, was again reconfirmed in New York, by such distinguished surgeons and physicians as Professors Carnochan and Cox, and Dr. D. M. Reese, LL.D., who reported that they were "only modifications of Palmer's, and had no claim to any premium." Those infringements were made by persons in New Hampshire and New York, some of whom have now gone West to obtain what they failed to secure in the East—encouragement.

*Sixth.*—At the State Fair in Lowell, Mass., in 1851, also at Hartford, Ct., other imitations were exhibited, and recognized as such—the *Gold Medal* being awarded to us, as at the former exhibitions throughout the country. These cases will suffice to show the course which men of scientific attainments pursue in such matters, and may properly serve as a guide to dishonest copyists in the future.

It is with great reluctance, and after years of reflection, that we now publish these cases, and expose this *essential dishonesty*, to correct the misapprehension of those who may listen to the statements of persons who, failing of encouragement in the only circles where success can be reliably established, go out into the *highways* for patients, and make rude remarks about scientific men, who, knowing their duty as impartial jurors and the incompetency of these mechanics, speak of their work and themselves as they deserve. These disappointed parties have, each in turn, grossly censured eminent surgeons who made awards in our favor, and now, as a last resort, they *threaten* to break our patents. We purpose giving them ample scope for the exercise of judicial knowledge much greater than the skill evinced either in their rude attacks upon our patents or upon committees. We believe

that eminent legal gentlemen are as competent adjudicators in such matters as their compeers among the surgeons. It has been said by these copyists, that the committees transcend their jurisdiction when actuated, in making awards, by considerations of a judicial nature, as, they say the Courts alone are competent to decide this point. *This is a most specious argument, and worthy of a person who would rob a man of his brain to reach his purse.* Suppose for a moment (to show the absurdity of such an idea) that the Royal Commissioners of the World's Exhibition in London, and that the very eminent surgeons in Boston, New York, Philadelphia, Baltimore, etc., etc., etc., had acted upon the idea that they were to award to every man according to the merits of what he *presented*, and not what he *produced*, they judging by the article exhibited irrespective of the claims by invention or priority of manufacture; is it not too evident that they would all have given their names, and the influence of potential societies, to encourage an *illegal and injurious traffic*, and thus, by their official acts, vitiate, if not destroy our patents? Their opinion is of much more *practical value* in such matters than that of Courts.

We have long had the patronage of Drs. Mott, Parker, Carnochan, Bache, Cheesman, March, Hamilton, Gross, Mütter, Pancoast, Gibson, Rand, Mitchell, Warren, Hayward, Bigelow, Townsend, Storer, Smith, Harris, Gettings, Dugas, Pope, Mussey, Blackman, Palmer, Howard, Knight, Thayer, Reese, Cox, Stone, and their compeers in this country—of Sir B. Brodie, Drs. Lawrence, Green, Fergusson, Stanley, Forbes, Solly, Hilton, Curling, Cooper, Skey, Hawkins, Wakley, Luke, Shaw, and Arnot, of London—of MM. Roux, Velpeau, Malgaigne, Debout, Debois, Lallemand, and Larrey, of Paris; Prof. Syme, of Edinburgh, and many others we might mention. These eminent Surgeons have unequivocally endorsed the *originality* of this invention, and their opinion *will not be disregarded by any intelligent jury*. They have tested the practical value of such mechanism, and are cognizant of the improvements made from year to year in the same. In addition to these we might give the names of more than three thousand persons who are now using our limbs, and whose undivided opinion is the same.

If such surgeons and scientific committees are not competent to judge of the originality of such an invention, is it justly presumable that a jury of twelve men, however intelligent (whose habits of life and thought may have been such that they were never any of them called to examine a false limb carefully), will be more capable of judging after a few hours' consideration of conflicting claims in courts? These scientific men have brought forward and compared more than one hundred different kinds of ancient and modern substitutes. In the World's Exhibition, in London, there were about thirty varieties of false limbs. The only forlorn hope of these infringers is to vitiate our patents by showing *want of originality*—the *superiority* being conceded by them, even, in their *infringements*.

The intelligent reader will see the palpable absurdity that is patent on the face of such unblushing assurance and presumptuous ignorance. The persons who challenge our claims desire *notoriety*, and attempt to provoke us to mention their names publicly, which we are not inclined to do. But our statement of their *doings* will enable the reader to know such of them as may fall into their way. Ours was the first patent ever taken in this country for a leg, and it is well

known that up to the time that was issued the crudest forms of substitutes were in general use, and thousands who now have our limbs would prefer crutches, as they then did, to such appendages. Our invention was, and is, well appreciated, and the demand is annually increasing. We feel called upon at this time to *do* and *say* all we can, honorably, in justice to the cause in which we are engaged, and for the benefit of a class of sufferers whose great misfortunes demand our just consideration, since their appreciation of our labors has bestowed a degree of patronage never by us anticipated, as it is wholly unexampled, even in the cities of London and Paris. B. F. P.

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## TESTIMONIALS OF SURGEONS.

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Believing it will gratify the Profession in this country to know that our Inventions are highly appreciated abroad, we deem it proper to mention, respectfully, the names of a few eminent European surgeons who were foremost in tendering us their influence and patronage at the introduction of the Limbs in London and Paris, and whose acts of professional courtesy extended to us during our sojourn in those cities (in 1851), elicit the profoundest gratitude and admiration.

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### SURGEONS OF LONDON.

LETTER OF G. J. GUTHRIE, ESQ.,

(*Ex-President of the Royal College of Surgeons, London.*)

BERKLEY STREET, BERKLEY SQUARE, }  
London, September 30, 1851. }

B. FRANK. PALMER, Esq.,—SIR :—I have no hesitation in stating that I consider your Patent Artificial Leg to be the best invention I have yet seen ; the most useful and the least distinguishable from the natural limb.

I am, Sir, your very obedient servant,

G. J. GUTHRIE.

Similar opinions have been expressed by—

|  |   |
|--|---|
| Sir BENJAMIN BRODIE, Bart.                                   | B. B. COOPER, Esq., Surgeon to St. George's Hospital. |
| Prof. FERGUSSON, Surg. to the Queen.                         | F. SKEY, Esq., Dem. of Anat. St. Barth. Hospital.     |
| WM. LAWRENCE, F.R.S., Surgeon to St. Bartholomew's Hospital. | CÆSAR HAWKINS, Esq.                                   |
| EDWARD STANLEY, Esq., Surgeon to St. Bartholomew's Hospital. | JOSEPH H. GREEN, Esq., F.R.S.                         |
| Mr. CAMERON, Surgeon to the Marquis of Anglesey.             | THOS. WAKLEY, Esq., Editor <i>Lancet</i> .            |
| Dr. FORBES.  | Sir D. BREWSTER.                                      |
| SAMUEL SOLLY, Esq.   | Mr. LUKE.   |
| J. HILTON, Esq.  | I. W. TURNER, F.R.S.                                  |
| J. B. CURLING, Esq., Surgeon to the London Hospital.         | Mr. SHAW, Surgeon to Middlesex Hosp.                  |
|  | Dr. J. M. ARNOTT.                                     |

And many other surgeons in London of great distinction.

## ROYAL COLLEGE OF SURGEONS.

EDINBURGH, 10th July, 1852.

DEAR SIRS :—I have the highest opinion of the "Palmer Leg," and shall be very happy if you can extend the benefit of it to Mr. Hixson.

Very truly,  
JAS. SYME.

Messrs. Palmer & Co., London.

EDINBURGH, 26th December, 1852.

DEAR SIR :—The merits of the "Palmer Leg" are so generally admitted that I presume my opinion is wished in regard to the particular modification of it, which was lately supplied to a patient of mine, who had suffered amputation below the knee but could not make any use of the joint, in consequence of the effects of *previous disease*. Nothing could be more satisfactory than the ingenious contrivance for the purpose, and I therefore have great pleasure in bearing this testimony.

Yours truly,  
JAS. SYME.

DUBLIN, May 26, 1856.

GENTLEMEN :—I have to acknowledge the receipt of the Model of the Artificial limb forwarded by you to the Military Surgeons' Museum, and to say that *I have never inspected* more beautiful work. I do not think any improvement can be made upon it. It has been universally admired by medical men.

I have ordered a sketch to be copied on a large scale for the Museum.

Very faithfully yours,

JOLLIFFE TUFNELL,

*Regius Professor of Military Surgery, Dublin.*

To Messrs. Palmer & Co., London.

## SURGEONS OF PARIS.

By invitation of M. Roux and M. Lallemand (Jurors of the World's Exhibition in London), the inventor visited Paris, where he was invited to go before the *Société de Chirurgie* with the Patent Leg. The invention was received with an acclamation of approval, by such renowned Surgeons as Baron Larrey, M. Velpeau, and M. Debout, as it had been by the international jury of surgeons in London, prominent among whom was the world-renowned Roux, for forty years Chief surgeon to the Hôtel Dieu, in Paris.

## SOCIÉTÉ DE CHIRURGIE.

We have been in correspondence with the Secretary of this Society on the subject of the *place of election* for amputation, and have given evidence of the vast superiority of the operation low down, both for the immediate safety and the ulterior comfort and usefulness of the patient.

We wait for the report, which will be of vast importance to the mutilated, being well assured that the eminent surgeons composing the committee cannot fail of doing great service to the Medical Profession throughout the world, and greater still to the mutilated, when they shall publish the result of their investigations.

As we some time since promised this report to the world, we take the liberty to publish an extract of a letter recently received from M. Debout, the distinguished Secretary of the Society, giving the cause of the great delay, and which, though not official, indicates what the report regarding the leg will be when published by the Society. Dr. Debout is Chairman of these important committees.



## LETTER OF DR. DEBOUT.

*Bulletin Général de Thérapeutique,  
Médicale et Chirurgicale, Paris.*

(Translation.)

MESSRS. PALMER & Co., London, Gents. :

I have desired Dr. Deville to examine, for me, the various forms of amputated limbs in London, and especially those removed at the lower third of the leg. The influence which this honorable *confrère* exerts here will make his testimony valuable, added to my own.

Will you furnish him this information, and accompany him in his visits, in order to expedite them? Without this knowledge it is impossible to make the report on amputations.

Judge Choiselat, of Meaux, walks *marvelously*. He recently walked three miles without any assistance, and with little fatigue.

This gentleman has offered to come before the Society of Surgeons, with his surgeon, who is a correspondent of the learned Association, and to testify by his success to the adaptability of your invention to the *upper third* of the leg.\*

Of all the apparatus sent for examination, yours excel in form, lightness, and the simplicity of its mechanism.

Accept, gentlemen, the assurance of my distinguished consideration.  
DEBOUT.

## SURGEONS OF NEW YORK.

I have examined carefully the Artificial Leg invented by Mr. B. Frank. Palmer, of this country. Its construction is simple, and its execution is beautiful; and, what is most important, those who have the misfortune to require a substitute for the natural limb, and the good fortune to possess it, all concur in bearing practical testimony to its superiority in comfort and utility

VALENTINE MOTT,  
*Professor of Surgery in the New York University.*

I have seen several of the Artificial Legs manufactured by Mr. B. F. Palmer in use, and consider them superior to any with which I am acquainted.

WILLARD PARKER, M.D.,  
*Professor of Surgery in the College of Physicians and Surgeons, New York.*

DOCTOR HUDSON—*Dear Sir* :—Your artificial leg is a triumph of artistic skill; and the award which it received at the Great Industrial Exhibition in London was no more than a just tribute to the inventive genius and mechanical talents of Mr. Palmer. It would be hazardous to say whether any superior construction of apparatus, for so beneficent an end, will be effected. But the best praise you can receive is the entire approbation of all who have adopted your most ingenious and admirable invention.

JOHN W. FRANCIS, M.D.,

I have examined the Artificial Leg constructed by Messrs. Palmer & Co., and I think it more fully meets its requirements than any I have before seen.

JOHN C. CHEESMAN, M.D.,

\* Judge Choiselat had both legs amputated three inches below his knees. See his letter, page 36.

I give my unqualified testimony as to its superior merits over all other inventions of the kind. I invariably recommend it to the patients upon whom I have operated in private practice, and have also recommended the State Commissioners of Emigration to supply their patients who have been operated upon in their hospitals with this most excellent substitute for the amputated limb.

J. M. CARNOCHAN, M.D.,  
*Professor of Surgery in the New York Medical College,  
 Chief Surgeon to the State Emigrant's Hospital.*

From what I have seen, and from the testimony of those who have used your work, I do not now hesitate, nor have I done so for several years past, to recommend my patients who have been so unfortunate as to lose a limb, to call on your firm for a substitute.

ALDEN MARCH, M.D.,  
*President and Prof. Surgery and Operating Surgeon, Albany Med. College.*

*My Dear Sir* :—I have examined with great care, the artificial limb of B. F. Palmer, which you have prepared for my patient. It is admirably fitted, beautifully finished, and its adaptation and use, are in the highest degree satisfactory. It is superior to any artificial limb I have ever seen. I am happy to know that your work is appreciated by the eminent men who have testified to its excellence.

I am very respectfully yours,  
 J. H. ARMSBY,  
*Prof. of Anat., Albany Medical College.*

Messrs. PALMER & Co.—*Gentlemen* :—I shall be happy to permit you to refer to me in reference to your Artificial Limbs; since, during several years, I have been accustomed to direct my patients to you, and no one has expressed to me dissatisfaction. I believe them to be the best now in use.

With sentiments of esteem, I remain truly yours,  
 FRANK H. HAMILTON, M.D.,  
*Prof. Surgery, Medical Department University of Buffalo.*

Mechanical ingenuity cannot be turned to a better purpose than the supplying of lost members, to those who are so unfortunate as to be mutilated by the surgeons' knife. Messrs. Palmer & Co. have brought to such a degree of perfection the manufacture of Artificial Limbs, that persons who have lost even both legs, are enabled to trudge about with the rest of mankind, nearly as well, on ordinary occasions, as the best of them.

The references which they publish by permission, number some of the most distinguished European and American Surgeons, and we cheerfully add our recommendation to this triumph of American ingenuity.

AUSTIN FLINT, M.D.  
*Prof. of Medical Pathology in the University of Buffalo, and  
 Editor Buffalo Medical Journal.*

*Buffalo, Nov. 8, 1858.*

Dr. E. D. HUDSON—*Dear Sir* :—It gives me pleasure to say, that I have had frequent opportunities of witnessing the operation of Palmer's Artificial Leg for the last two years, and do not hesitate to recommend it in preference to all others that I have ever seen.

C. C. WYCKOFF, M.D.

Geneva, New York, Oct. 31, 1858.

Messrs. PALMER & Co.—*Gentlemen*:—I have used Artificial Legs of almost every device during the past twenty-five years; and during the past eleven years, I have used one of Palmer's Artificial Legs with the greatest comfort and usefulness.

From my own personal experience and observation, as well as the invariable expressions of the highest satisfaction, which the numerous patients have made whom I have sent to you for substitutes, I believe your limbs to be the best appliance ever invented for the loss of the natural leg.

Yours, very sincerely and truly,  
H. A. POTTER, M.D., *Surgeon*.

### SURGEONS OF PHILADELPHIA.

I have examined, with great care, the Artificial Leg invented by Mr. B. F. Palmer, and do not hesitate to recommend it in the *strongest terms*. It is used by my patients with entire satisfaction.

THOS. D. MÜTTER, M.D.,  
*Professor of Surgery in the Jefferson College, Philadelphia.*

Philadelphia, Dec. 14, 1858.

*My Dear Sir*:—I am really very much gratified to find that your ingenuity and perseverance have at length accomplished what the profession has so long waited for in vain—a *useful Artificial Hand and Arm*. The models you showed me the other day appear to accomplish every indication, and are worthy companions to your *unequaled* "Artificial Legs." After many years' observation of the working of the latter, I am compelled to repeat, what I have already expressed in writing, that neither in Europe nor America is there an instrument of the kind, in my judgment at least, worthy of comparison with them.

Trusting that you will continue your efforts to relieve your afflicted fellow-creatures.

I remain, very sincerely yours,

THOMAS D. MÜTTER,  
*Emeritus Prof. of Surgery in the Jefferson Medical College, Philadelphia.*  
B. FRANK. PALMER, Esq., etc., etc.

I have examined carefully, the Artificial Leg invented by Mr. Palmer, and have formed a very favorable opinion of its construction. I have also advised my patients to obtain it.

W. GIBSON, M.D.,  
*Professor of Surgery in the University of Pennsylvania.*

### SURGEONS OF BALTIMORE.

The Artificial Leg of Mr. B. F. Palmer, is by far the best that has fallen under our observation, and worthy of the highest commendation.

N. R. SMITH, M.D., *Professor of Surgery.* CHARLES FRICK, M.D.  
WILLIAM M. KEMP, M.D. C. A. HARRIS, M.D.  
L. MACKALL, M.D. WILLIAM PRATT, M.D.

## SURGEONS OF BOSTON.

The undersigned having witnessed the successful use of the Artificial Limbs manufactured by Mr. B. F. Palmer, very gladly recommend them to persons who have suffered the loss of a lower extremity. The very ingenious mechanism which is applied in this invention produces an imitation of the shape and motion of a living member, much more successful than would seem possible. We recommend them with pleasure and confidence to those who may need such assistance.

J. C. WARREN,  
GEO. HAYWARD,

JACOB BIGELOW,  
S. D. TOWNSEND,

J. MASON WARREN,  
D. D. STORER.

*Surgeons and Physicians to Massachusetts General Hospital.*

The Artificial Leg of Mr. B. F. Palmer is a beautiful contrivance. It is far better than any previous apparatus of the sort.

H. J. BIGELOW, *Prof. of Surgery in the Mass. Medical College.*  
H. G. CLARK, *Surgeon to Mass. General Hospital.*

## SURGEONS AND PHYSICIANS OF SPRINGFIELD.

Palmer's Artificial Leg is, beyond a doubt, vastly superior to any that has preceded it in Europe and America—indeed, so perfect is its adaptation to the purpose for which it was intended, that there seems to be no room left for improvement. It differs widely from all others that have gone before it, in its mechanism and utility.

ALFRED LAMBERT, M.D.,  
R. G. W. ENGLISH, M.D.,  
EDWIN SEEGER, M.D.,

JEFFERSON CHURCH, M.D.,  
JAS. M. SMITH, M.D.,  
N. ADAMS, M.D.

HON. C. C. CHAFFEE, M.D., MEMBER OF CONGRESS.

*Springfield, Mass., April 29, 1855.*

To E. D. HUDSON, M.D.—*My Dear Doctor*:—I am free to say of Palmer's Artificial Leg that from twenty years' observation, I have never seen anything to equal it as a remedy for surgical deformities. Indeed, I know not what there is left in the science of mechanics, that can be made applicable for the uses to which this leg is applied.

To my mind, there is no other artificial limb entitled to a trial even; and, in fine, I regard it as the *ne plus ultra* of artificial limbs.

I am, Sir, very truly yours,

C. C. CHAFFEE, M.D.

## SURGEONS OF NEW HAVEN AND HARTFORD, CT.

We have had the opportunity of witnessing the operation of Palmer's Artificial Leg in several cases, and do not hesitate to recommend it in preference to all others with which we are acquainted.

J. KNIGHT, M.D.,  
*Prof. of Surgery, Med. Inst. Yale College.*

P. A. JEWETT, M.D.,  
*Phys. & Surg. Gen. Hospital Soc.*

## YALE MEDICAL COLLEGE.

E. D. HUDSON, M.D.—*Dear Sir*:—In behalf of my colleagues, I take pleasure in acknowledging the receipt of the beautiful model of one of your Artificial Legs. Please accept our thanks for the same. Amongst all the so-called improvements, I have yet seen none to compare with those you manufacture. Indeed, I look upon it as nearly perfect as it can be.

Yours very truly,

P. A. JEWETT.

New Haven, December 12, 1858.

Hartford, March 11, 1859.

MESSRS. PALMER & Co.—*Gentlemen*:—Having had frequent opportunities of testing the working of your admirable Artificial Leg, we cheerfully recommend it to all who may require such assistance, believing that no mechanical contrivance for the purpose can be found equal to it in beauty of workmanship or perfection of operation.

P. W. ELLSWORTH, M.D., S. B. BERESFORD, M.D.

## UNIVERSITY OF VERMONT.

MESSRS. PALMER & Co.—*Sirs*:—I am happy to inform you that the case of my patient, Mr. Ballard, far exceeds his expectations in utility, and does much better than I expected it would, with so short a stump. Mr. Ballard is the third patient I have sent to you from this State within the past five years, two of whom were residents of Northfield, Mr. King and Mr. Burnham. In each and every case, the artificial appliance has been most satisfactory. I think them superior to anything of the kind I have ever seen. It will always afford me pleasure to send you patients whose necessities require such artificial appliances.

I remain your most obedient servant,

SAMUEL W. THAYER, JR.,

*Prof. of Anatomy and Physiology, University of Vermont.*

## MEDICAL COLLEGE OF OHIO.

*Cincinnati.*

We are indebted to Mr. Palmer for the Artificial Leg which has won the admiration of the most prominent surgeons in Great Britain, France, and this country. This is certainly one of the greatest triumphs of American ingenuity.

GEO. C. BLACKMAN, M.D.,

*Prof. of Surgery.*

## SURGEONS OF WASHINGTON.

U. S. NAVY DEPARTMENT, }  
*Bureau of Medicine and Surgery.* }

B. FRANK. PALMER, ESQ.—*Sir*:—I have carefully examined the Artificial Leg of your invention, and find that it seems calculated to form an excellent substitute for the natural one, and leaves nothing to be desired by way of improvement.

I am, very respectfully, your obedient servant,

THOS. HARRIS, M.D.,

*Chief of the Bureau.*

I have seen nothing which approaches it in perfection.

S. R. ADDISON, M.D.,

*Asst. Surgeon, Bureau of Med. and Surgery.*

## BRITISH AND AMERICAN (MEDICAL) PRESS.

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FROM THE LONDON LANCET, JANUARY 3, 1852.

The Patent Artificial Leg of Mr. Palmer is a most admirable, ingenious, and philanthropic contrivance. It is far superior to all others hitherto invented, and is a valuable addition to our means of removing the inconvenience arising from a severe mutilation.

FROM THE NEW YORK SCALPEL, NOVEMBER, 1852.

The success of this extraordinary piece of mechanism in carrying off the great medal at the World's Fair of London, and the testimonials of praise from all of the most distinguished surgeons of that city, is unprecedented in the history of orthopædic mechanism. \* \*

It is a triumph of inventive skill of which our country may be proud, and places the profession and the unfortunate under the highest obligation to the Mechanic Arts.

FROM THE BOSTON MEDICAL AND SURGICAL JOURNAL.

There has been a degree of perfection attained in this branch of mechanism in the United States, that surpasses the efforts of ingenious artists in Europe. This fact is admitted abroad, and Mr. Palmer's success with his Artificial Limbs in London was a triumph that has added to the credit of American ingenuity and skill. His invention is indeed the *ne plus ultra* of mechanism.

FROM THE AMERICAN MEDICAL GAZETTE, NEW YORK, DEC., 1857.

### AN INTERESTING CASE IN MECHANICAL SURGERY.

Having occasion to call at the office of Messrs. Palmer & Co. recently, our attention was invited to the case of a young man who had suffered the loss of both limbs by a railroad accident; one limb having been removed by amputation at the *middle third of the thigh*, and the other at the *lower third of the leg*. Until recently such cases have been regarded as past help. The first instance of a successful adjustment of Artificial Legs in such a case, was performed by Messrs. Palmer & Co., in 1852, for Mr. J. S. Sanford of the Massachusetts General Hospital. He is now in active business—an employé on a New England R. R., and never uses but one cane, and oftentimes not any. The patient, or M. P., at the time we saw him was weak and trembling, not having fully recovered from the shock of the accident and operation, and had had a pair legs adjusted to his stumps only three days; and yet it was marvelous, the ease and naturalness with which he walked about the house, as also the manner with which he ascended and descended two long flights of stairs which he was in the habit of doing several times in the day, and unaided. Such mechanical operations (for no case seems to be beyond their skill to treat successfully), conducted on strictly scientific and anatomical principles, and with due attention to the pathological condition of the truncated portion of the limbs are truly interesting, humane, and praise-worthy, and should command the approbation and countenance of every intelligent professional man. What adds to their merit—such cases destitute of pecuniary means are never disregarded.

We feel that it is due to the practice of surgery—to *humanity*—that the inimitable operations of Palmer & Co. should not be lost sight of, or slightly considered by the profession; that no charlatan alike ignorant of science, anatomy, pathology, and art, who may have had a little practice with tools in their work-shop should be tolerated when he presents as a rival operation, a mere imitation of the beautiful appliance of Palmer's Leg, with some trivial or detrimental alterations, to evade the process of law, and which he has the effrontery to term an improvement.\* The award that was given to Palmer's limb by such experienced and enlightened surgeons as Profs. Lawrence, Green, Fergusson, Brodie, Roux, Lallemand, etc., of London and Paris, over every appliance of the kind in Europe, and the awards of a similar class of men in the United States, should be sufficient to inspire the profession and the public with unmeasurable confidence in the superior and philanthropic operations of Messrs. Palmer & Co.

FROM THE AMERICAN MEDICAL MONTHLY, NEW YORK, MARCH, 1858.

PALMER'S ARTIFICIAL LEG is so well known, that it is not necessary to say a great deal concerning it. But those who are not familiar with it, should take the uninterested testimony of the distinguished surgeons who have certified that it is the best yet invented. We have lately examined its claims in comparison with those of its principal rivals, and it seems clear that it holds the first place. The first patient that we ever saw who wore one, was a lady, and it was impossible to tell, by the gait, which was the artificial foot. This was then a marvel, but now it seems to be rather common to furnish persons who have lost both legs, with useful substitutes, even when the amputation is above the knee. It is certainly a great work thus to restore to active life, persons who must otherwise be among the most helpless of cripples. Palmer & Co's "*Artificial Leg Reporter*," which is distributed gratuitously to persons wishing for it, contains some interesting and valuable information concerning the place at which various amputations should be performed, when election is possible.

### HONORARY AWARDS.

An unprecedented number of First Class Premiums have been awarded for "Palmer's Patent Leg," by eminent Scientific Associations, and at the GREAT EXHIBITIONS in the United States and Europe; among which is the GREAT PRIZE MEDAL OF THE WORLD'S EXHIBITION IN LONDON, 1851; also the only SILVER MEDAL OF THE WORLD'S EXHIBITION IN NEW YORK, 1853, together with more than FORTY GOLD and SILVER MEDALS, or their equivalent, as "Highest Honors" adjudged by Surgeons of the first distinction, as Committees, many of whose names are appended to their reports in the following pages.

*Extract from Report of the Royal Commissioners of the World's Great Exhibition, London, 1851.*

The jury have the honor of submitting to Her Majesty's Commissioners the following report. \* \* \* \* \*

In the *mechanical compensation of lost parts* (of the human body), great success has been obtained, and among the contrivances for supplying

\*The Editor of the Am. Med. Gaz. was Chairman of the Jury on Artificial Limbs, at the last Fair of the American Institute, New York.

the loss of a lower limb, the admirable mechanism of Mr. B. Frank. Palmer's Artificial Leg (United States, No. 39, p. 1435), deserves particular notice. This Artificial Leg combines lightness and a successful imitation of the motions of the joints.\*

PRIZE MEDAL.

JURORS.

|   |  |                  |
|---|--|------------------|
|   | JOS. H. GREEN, F.R.S.,                   | } London.        |
|   | Member of the Royal College of Surgeons. |                  |
|   | WM. LAWRENCE, F.R.S.,                    |                  |
| Pres. Royal Col. Surgeons, and Surg. to St. Bartholomew's Hospital. | MR. JAMES PHILP,                         | } Paris.         |
|   | Anatomical Mechanician.                  |                  |
|   | M. Roux,                                 |                  |
|   | Surgeon (forty years) to Hotel Dieu.     | } Paris.         |
|   | M. LALLEMAND,                            |                  |
|   | Member of the Academy of Sciences, etc.  |                  |
|   | THOS. CHADBOURNE, M.D.,                  | } United States. |
|   | United States.                           |                  |

## World's Great "Exhibition of the Industry of all Nations,"

CRYSTAL PALACE, NEW YORK, 1853.

### EXTRACT OF REPORT.

"PALMER & CO. FOR BEST ARTIFICIAL LEG, SILVER MEDAL.."

JURORS, PROF. J. RENWICK, CHAIRMAN.

|                                 |                           |
|---------------------------------|---------------------------|
| PROF. WILLARD PARKER, NEW YORK. | DR. GAILLARDET, PARIS.    |
| " A. CLARK,                     | " PARKMAN, BOSTON.        |
| " CARNOCHAN,                    | " E. G. LUDLOW, NEW YORK. |
| AND OTHERS.                     |                           |

## EXTRACTS FROM REPORTS

OF

## Distinguished Scientific Associations.

### FRANKLIN INSTITUTE, PHILADELPHIA.

"THE COMMITTEE ON SCIENCE AND THE ARTS," constituted by the Franklin Institute of the State of Pennsylvania, for the promotion of the MECHANIC ARTS, to whom was referred for examination an Artificial Leg, invented by Benjamin Franklin Palmer, report :

\* \* \* \* \*

In conclusion, "That the Artificial Leg of Mr. Palmer is SUPERIOR TO ANY THAT HAS YET COME UNDER THEIR NOTICE. It is light, strong, beautifully shaped, apparently very durable, self-acting in a greater degree than anything they have ever met with; easy and natural in its motion, and possessing apparently all the qualities desirable or attainable in such an invention.

"The Committee would recommend the award to the inventor of 'SCOTT'S LEGACY MEDAL AND PREMIUM,' and also to the Committee on Exhibitions to award him the FIRST PREMIUM for his model, exhibited in the late Exhibition. By order of the Committee,

"WM. HAMILTON, *Actuary.*"

\* N. B.—This is the only artificial leg that received special honorary mention in the report of the Royal Commissioners.



## Franklin Institute.

LAST REPORT, 1858.

"No. 585. Artificial Legs and Arm. B. Frank. Palmer, Philadelphia. The Artificial Legs invented and made by Mr. Palmer, are believed to be unequalled. They have received the award of the Scott's Legacy Medal and Premium, on the recommendation of the Committee on Science and the Arts, as well as a first premium from this Committee, at a former exhibition.

"The Artificial Arm on deposit, a new production of the skill of Mr. Palmer, for more careful investigation of its merits, is referred to the *Committee on Science and the Arts*.

"Since the last award, Mr. Palmer has made several improvements in his arrangements."

**"A RECALL FIRST CLASS PREMIUM."**

N. B.—No PREMIUM has been awarded by the FRANKLIN INSTITUTE, for any other Artificial Leg, since the introduction of "Palmer's Patent," in 1846.

MASSACHUSETTS CHARITABLE MECHANIC  
ASSOCIATION, BOSTON.

TRIENNIAL EXHIBITION, 1847.

The Committee are of opinion that this invention fulfills the various requisites of a substitute for the lower limb, as completely as any artificial machinery ever can be expected to do. *In imitating the various movements; in the mode in which the flexions of the knee, ankle, and foot, are connected; and the apparent reliability and permanence of the mechanical details, they do not see any failure to fulfill the highest possible requisites.* They recommend that Mr. Palmer's successful improvement be acknowledged by the bestowal upon him of a SILVER MEDAL.

J. WINSLOW LEWIS, M.D., }  
LUTHER V. BELL, M.D., } *Judges.*  
And others, }

**Massachusetts Charitable Mechanic Association.**

TRIENNIAL EXHIBITION, 1853.

"Palmer & Co. One Case Artificial Legs." This article, of which are exhibited two very fine specimens, one for loss of limb above the knee, and the other below only, has been already fully reported upon by former Committees, who had every opportunity to examine and test its merits. And the Committee would have simply referred to those reports, but for the fact that Messrs. Palmer & Co. have accomplished what has heretofore been deemed an impossibility, viz., enabling a person who has lost both legs, as in the case of Mr. Sanford,\* with one adjusted at the thigh, and the other below the knee, to walk with two substitutes. The young man who exhibits their models, shows in his own person ability to walk fairly, *without a cane*, upon a pair of Messrs. Palmer & Co.'s Legs. So far as we know, this Leg is without an important rival in this and foreign countries.

For the Leg, as now improved, we recommend a GOLD MEDAL.

HENRY G. CLARK, M.D., } *Judges.* { GEORGE BARTLETT, M.D.,  
WINSLOW LEWIS, M.D., } { HENRY J. BIGELOW, M.D.,

## AMERICAN INSTITUTE, N. YORK ; EXHIBITION, 1846.

In its appearance and in its movements, it so accurately resembles the natural limb as to require a careful examination before it can be decided to be anything else but the limb provided by nature. It combines *lightness with firmness*, and we recommend that a SILVER MEDAL be awarded to its inventor.

## American Institute, 1847.

PALMER'S PATENT ARTIFICIAL LEG.—Although this article received a Silver Medal last year, yet its superiority over every other construction of the kind, in our judgment merits the still further notice of the Institute, and we recommend a GOLD MEDAL.

D. MEREDITH REESE, M.D., }  
ALFRED C. POST, M.D., } *Judges.*  
S. RUSSELL CHILDS, M.D., }

## American Institute, 1850.

PALMER & Co. FOR THE BEST ARTIFICIAL LEG. A GOLD MEDAL.

"As now improved, it is superior to any other ever constructed, and merits, for science and humanity, the highest testimonial of the Institute."—*Am. Institute Fair*, 1852.

## Last Report of the American Institute, 1857.

"BEST ARTIFICIAL LEG—No. 225. Palmer's Artificial Leg still retains its superiority over all others." "*Gold Medal certified*," as twice before awarded.

"No. 840.—A modification of Palmer's, and has no claim to a premium."

D. M. REESE, M.D., LL.D., }  
PROF. J. M. CARNOCHAN, M.D., } *Judges.*  
PROF. H. G. COX, M.D., }

## Metropolitan Mechanics' Institute.

*Washington City.*

"THE PATENT ARTIFICIAL LEG, manufactured and deposited by B. Frank. Palmer, merits our highest commendation. It is beautifully finished, and is, without doubt, the most perfect artificial limb ever invented." MEDAL.

THOMAS MILLER, M.D., }  
W. P. JOHNSON, M.D., } *Jurors.*  
And others, }

## Maryland Institute, Baltimore ; Exhibition, 1852.

PALMER'S PATENT LEG—by far the best of this kind of mechanical contrivance that has ever fallen under the observation of the Committee, who report it as the article worthy of the highest commendation. A GOLD MEDAL.

N. R. SMITH, M.D., }  
LEONARD MACKALL, M.D., } *Judges.* { WM. M. KEMP, M.D.,  
C. A. HARRIS, M.D., } { CHAS. FRICK, M.D.,  
 } { WM. PRATT, M.D.,

## CORRESPONDENCE, MONOGRAPHS, ETC.

*Letter of Col. THOS. W. WARD, Ex. U. S. Consul at Panama.*

*New York, March 12, 1859.*

Dr. E. D. HUDSON, 378 Broadway, N. Y.

*Dear Sir:*—Your favor of the 10th inst., has been received, and however unpleasant to me to allude to my misfortunes, I cannot in justice withhold an expression of my opinion regarding the Artificial Legs made for me by Palmer & Co., at their manufactory in Broadway. Therefore, I give the assurance that the legs which you made for me, have given me great satisfaction, and although light (which is a great desideratum), are strong and durable, and have lasted without repair much longer than any others which I have worn.

With much regard, I am your very obedient servant,

THOS. W. WARD.

*From Rev. WM. REDDY, Presiding Elder, etc.*

*Auburn, N. Y., March 22, 1859.*

Messrs. PALMER & Co.—Having used your Artificial Leg for several years, with the various improvements you have made upon it from time to time, and having had experience in the use of at least three other kinds, I am free to say, that I regard your Patent Artificial Leg as the best adapted to the purposes of comfort and convenience, as well as for beauty and symmetry, of any one in known use.

WM. REDDY.

*From S. H. HAMMOND, Esq.*

*Albany, March 15, 1859.*

*My Dear Doctor:*—I take great pleasure in recommending "Palmer's Artificial Leg," as the best substitute now in use for the natural limb. I have worn one for more than four years, and it has given entire satisfaction, in the essentials of durability, reliability, and comfort—features which commend themselves to the appreciation of those compelled to resort to this kind of help to locomotion. Truly yours,

S. H. HAMMOND.

Dr. E. D. HUDSON, New York.

*From A. J. POST, Esq., Civil Engineer, Surveyor, etc.*

*No. 4 Hamilton Place, Jersey City, February 23, 1859.*

*To whom it may concern:*—This certifies that I have worn one of "Palmer's Patent" Artificial Legs for over eight years; during which time I have been engaged on heavy work in machine shops, and in civil engineering and surveying, in the most difficult places and on every grade, with perfect reliability and naturalness.

The ease and facility with which I walk, surprises all my friends and acquaintances, and I would not part with my artificial limb for anything short of the *original one*.

I think I am qualified to recommend Mr. Palmer's Limb to any one who may be so unfortunate as to need one, and would be most happy to give any information in my power, to every one who may ask it.

ANDREW J. POST.

## BOTH FEET AMPUTATED THROUGH THE INSTEPS!

*(See Cut.)*

Newtown, (Iowa), May 30, 1855.

B. F. PALMER, Esq.—*Dear Sir:*—It is with profound sentiments of gratitude and thankfulness, that I now beg leave to give you my experience thus far with the *two* artificial feet which you applied to me. My case has always been considered a *hopeless* one, and my friends endeavored to dissuade me from what they considered a useless effort, and foolish expense. But your encouraging voice inspired me with hope. I went to your city, and from the *first application* of the artificial feet I *walked* again with *ease* and *comfort*. The result is a *complete triumph*. I am now, thanks to your unequalled skill, enabled to move again in the society of my friends, to attend to my business, and in short, am "*made whole*."

I am gratefully yours,

J. C. MOSS.

Salisbury, (Lakeville), Ct.

MESSRS. PALMER & Co.—*Gents:*—In the winter of 1836, both my feet were frozen, so that I lost the use of my limbs entirely, except as I moved about on my knees.

In March, 1849, *one* of my legs was amputated. In October the other, and on the first of December following I commenced walking on *two legs* made by Messrs. Palmer & Co. I was enabled to walk at the first attempt, with the aid of a walking cane, and on the fourth day which I wore them, ascended a long flight of stairs with the assistance of one cane only, using my feet alternately in ascending, as though I had natural feet and legs.

JOSEPH B. HINE.

## BOTH LEGS AMPUTATED, ONE ABOVE THE KNEE.

West Medford, near Boston, Mass.

MESSRS. PALMER & Co.—*Dear Sirs:*—I now seat myself to inform you how I get along with my artificial legs. I find that I improve daily. I walk with perfect ease. I have been to Boston six times within three weeks, and traveled about with the use of one cane, at one time, a mile or more. My townfolks consider me a walking wonder, and the getting of my limbs no "*foolish experiment*." When I arrived at home my mother was overjoyed to see me walking. The hospital\* surgeons say, there is no room for improvements; and every body considers it a wonderful operation and without a precedent.

Yours truly,

J. S. SANFORD.

## BOTH LEGS AMPUTATED.

Canandaigua, N. Y., August 9, 1856.

MESSRS. PALMER & Co.—*Dear Sirs:*—I have deferred writing to you till this time, that I might inform you truly concerning the artificial legs you made for me. Now, I have given them a good trial, and am prepared to speak in the highest praise of them. They far exceed my expectations, and that is saying much; for I had high anticipations, and expected to be able to walk in a first-rate manner, and I assure

\* Massachusetts General Hospital.

E. WIGHT.

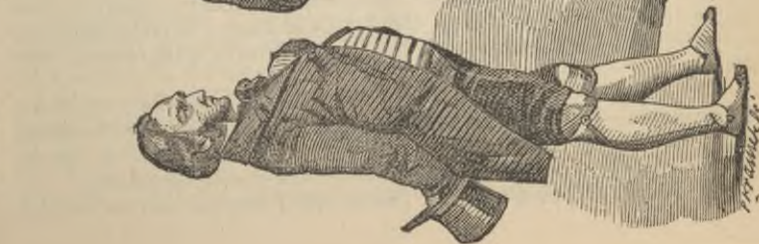
LE GRAND WELLS.

WM. F. CARLSON.

J. S. SANFORD.

J. B. HINE.

J. C. MOSS.



THESE GENTLEMEN HAVE, EACH, TWO OF  
PALMER'S PATENT LEGS.

One Amputated above the Knee-Joint—See Certificates, page 36.

1874

you I do. All that I regret is, that I had deprived myself of them so long, which I should not have done, had it not been for the advice of one or two interested persons. You cannot think how pleased my friends are at my being able to walk and appear so naturally. All other artificial legs appear to me now to be nothing but sticks, compared with yours. I wish every one in want of a limb to enjoy one of yours.

Yours truly,

WM. P. CARSON.

BOTH LEGS AMPUTATED—(WEIGHT, 185 POUNDS.)

Stratford, January 6, 1859.

MESSRS. PALMER & Co.—*Gents*:—I have used a pair of your patent legs for two years, and am prepared to say that they have surpassed my own expectation. At first I was necessitated to use two canes. Now I walk firmly and steadily, with greater ease and comfort, with only one cane. I am able to do considerable labor, of different kinds. My neighbors are surprised, and I am more than satisfied. No money could tempt me to be without them. No one can sufficiently esteem the importance of such an invention to mankind, save those whom misfortune compels to wear them; as one such, I know their value to be *inestimable*. With great esteem, I remain Yours,

LEGRAND WELLS.

Springfield, Mass., August 25, 1858.

MESSRS. PALMER & Co.—*Gents*:—I have worn a pair of "Palmer's Patent" Artificial Legs, nearly six years; during all of which I have given my personal attention to a very extensive business, that has required me to be constantly getting in and out of railway cars, also all kinds of carriages, and to walk any distance from a few rods to miles, over every kind of road, and to be almost constantly on my feet. My business has been deemed amply sufficient for any robust and healthy man, with two good natural legs. I have always used the limbs with a degree of comfort and satisfaction that is surprising to myself, as well as my friends.

I am able to take my place in the active affairs of life, contribute my full share to the accomplishment of its duties, and participate largely in its pleasures.

EMERSON WIGHT.

TESTIMONIAL OF AN EMINENT FRENCH JUDGE.

BOTH LEGS AMPUTATED.

Meaux, Seine et Marne, France, July 16, 1856.

MESSRS. PALMER & Co., London.—*Gentlemen*:—I have received this morning in very good condition, the Artificial Legs. I tried them immediately, and they operate well. I can already walk around my chamber.

February 20, 1858.

GENTLEMEN:—I am able to walk better and better with my artificial legs. I desire you to construct a new pair, and send them to me at Meaux, as I expect to remain there during the month of March.

I am entirely satisfied with the limbs, and I beg of you to receive

anew, with my thanks for the service you have rendered me, the assurance of my highest esteem.

A. CHOISELAT,  
Rue St. Nicholas, 54, Meaux.

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BOTH LEGS AMPUTATED.

East Bloomfield, N. Y., April 6, 1854.

Messrs. PALMER & Co.—*Dear Sirs*:—Having used a pair of your artificial legs constantly during the three years past, to my very great comfort and satisfaction and the admiration of my friends, I am prepared to say unqualifiedly, that they are the greatest blessing ever conferred on mutilated man. I regard them as the most perfect and useful substitutes for the natural limb ever devised, and the only ones worth having. I feel keenly on this subject, and speak strongly, but advisedly. I wish to warn every one so unfortunate as to need an artificial limb, to be on guard against the worthless limbs that are offered in various parts of the country, and to advise all to procure none but *the very best*, which an extensive experience and the numerous critical investigations of men of Science and the Arts, in almost every part of the civilized world, have proved yours to be.

Yours respectfully,

E. S. JUDD.

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P. HUBBELL, ESQ., PRESIDENT OF THE MONUMENT BANK.

Charlestown, Mass., November 11, 1858.

B. F. PALMER, Esq.—*My Dear Sir*:—After ten years of practical experience, I desire to record my testimony to the surpassing excellence of your truly valuable improvement of the Artificial Leg; and I thank you in behalf of the sorely stricken and afflicted of mankind (whom your patent is designed to relieve), for the world-wide benefit you have so earnestly and successfully sought to extend. \* \* \* The external appearance of your leg, may be judged of by any superficial observer. The *real beauty*, however, of an artificial leg to the unfortunate wearer, lies in its *utility*; and in the consciousness of doing justice to other leg makers, whom I have patronized as well as yourself, I feel constrained to say that in *comfort of wearing*, and in *durability*, your limb as far surpasses every other kind, as the mid-day sun surpasses the moon in brilliancy; and in the fullest confidence of your desire to give comfort to the greatest number of the wounded and suffering, I remain ever truly and sincerely yours,

P. HUBBELL.

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From DANIEL KELLOGG, Esq.

Colchester, Ct., February 14, 1859.

Messrs. PALMER & Co.—*Gentlemen*:—Having been in the constant use of your Artificial Leg for eight years, and signally benefited by it, I esteem it no less a duty than a pleasure, to state for the benefit of those in want of artificial legs, that I have seen a number of other kinds, none of which appear to me so well adapted to supply the loss of the natural limb as yours; and that I consider it, as far as my knowledge extends, much the best of any now in use; combining strength, lightness, and durability, all of which qualities are desirable

and the first two indispensable, in order to render the wearing of the limb easy and comfortable. My limb was amputated five inches above the knee; as soon after as my stump was in a proper condition, I procured the leg which I now wear, and during the time I have worn it, have never expended for repairs upon it a sum exceeding five dollars. I can walk so well, that no person not acquainted with the fact, would ever suspect the cause of my lameness. People often inquire if I am lame, and the cause, and when told that I wear an artificial leg, they express great surprise that a substitute has been found which so well supplies the loss of a limb. It is not quite equal to the natural limb, but comes as near it, as it is possible for art to imitate nature.

Respectfully yours,

DANIEL KELLOGG.

*New York City Hospital, July, 1856.*

Having suffered the loss of my leg by amputation, and having had ample experience with various kinds of artificial limbs (among them the "Anglesey Leg"), I feel it a pleasure, as well as a duty which I owe to those alike afflicted, to say, that I have never worn, or seen, any kind of artificial leg so essentially and eminently useful, so ingenious and natural in its operations, and that will so perfectly restore or disguise the loss of the natural leg as "Palmer's Patent Leg." As an assistant eight years of the surgical wards, I have been made acquainted with many very bad cases of mutilation, where the loss of limb has been rendered comparatively small by the application of this useful and beautiful work of art. I know of none so useful and economical.

JAMES McGRATH, *Gen'l Nurse.*

#### THIGH AMPUTATION.

*Lowell, Mass., August 1, 1856.*

Messrs. PALMER & Co.—*Gentlemen*:—I have worn Palmer's Patent Artificial Leg, for nearly four years, with the best of success. I can walk from three to five miles at one time with but little inconvenience. I generally have my limb in constant use from 8 o'clock, A. M., until 11 o'clock, P. M., in the store; and I find my stump feels much better while standing on my limb, than while sitting with or without the limb, as it seems to remove that twitching nervous affection that always attends an amputated limb. I have examined many limbs from other manufactories, with the hope of finding something better; but I must say that for lightness, strength, and durability (and its not being liable to get out of order), I regard it the best substitute in the world.

Yours respectfully,

E. A. STANIELS.

#### THIGH AMPUTATION.

OFFICE OF WATERTOWN AND ROME R. R., }  
*Rome, N. Y., January 18, 1859.* }

Messrs. PALMER & Co.—*Gents*:—Would that I could do justice in recommending your artificial leg to those in need of such. I have worn my leg nearly six years, with only a slight repair. I find no difficulty in walking very naturally and with the utmost ease, and in performing all the duties connected with my active business, with the most perfect reliability and entire satisfaction.

Yours truly,

H. H. GLINES.



## ARM AMPUTATION.

*Altoona, Pa., December 7, 1857.*

B. FRANK. PALMER, Esq.—*Dear Sir*:— \* \* \* “With the hand I am perfectly satisfied. I can do every thing I expected to with it, and a great deal more; indeed, almost anything. Every person who has seen it, thinks it surpasses anything of the kind ever before made, and I assure you, Sir, I would not take ten times the amount it cost me, and do without it. \* \* \* \*

“Yours very truly,

HENRY CARR.

## THIGH AMPUTATION.

*Ballston Spa, N. Y., July 9, 1858.*

Messrs. PALMER & Co. :—With the limb you manufactured for me I am highly pleased; it in fact exceeds my highest anticipations. I have never yet seen anything in the line of artificial limbs which would compare with yours, either for ease, movement, mechanism, or beauty. I have had some little experience in the matter, having worn (*or attempted to wear*) one of the Anglesey Legs, which I consider not to be compared with the article you manufacture. I have now worn my limb nearly ten years, and experienced no inconvenience whatever; it being perfectly easy to the stump, and beautiful in all its movements, no person not acquainted with me would for a moment suppose I was walking on anything else than the limbs which nature provided. Thanking you cordially, gentlemen, for your kindness, I am, with esteem, Your obedient servant,

PERRY BURNHAM.

## THIGH AMPUTATION.

*Bucksport, Maine, August 5, 1850.*

This certifies that I am now wearing one of B. F. Palmer's Artificial Legs, which I have used since the first of March last past, and am constrained to say that I did not believe it (before the trial) in the power of man to make a limb so perfect. I have only four and a half inches of thigh from my body; but with the above leg, I am enabled to walk with comfort and ease (with very little limp in my gait), and with all the natural motion of knee, ankle, and foot, together with sound of step of the well and natural leg. I cheerfully make this public declaration.

NATHAN WHITE.

## MR. L. MUNSELL, ARTISAN.

This is to certify that I am now wearing one of B. F. Palmer's artificial limbs, which is far superior to any other article of the kind now in use. I have worn two substitutes previous to Mr. P.'s, which were considered very good, but they will bear no comparison with his. It enables me to walk *with perfect regularity*. I take pleasure in recommending it to all who have occasion to wear an artificial limb.

L. MUNSELL,

In Chickering's Piano-Forte Establishment, Boston, U. S.

## THIGH AMPUTATION—HORACE T. COOK, ESQ., ATTORNEY AT LAW.

*Auburn, N. Y., April 5, 1850.*

GENTLEMEN :—Your letter under date of the 3rd inst. has just been received, and in reply I will state that I have worn, since October, 1849, a full length Artificial Limb made by you, and known as "Palmer's Patent." Experience has proved it to be a good substitute for the natural limb ; it has, if anything, exceeded my expectations, and it comes nearer *perfection* than any artificial limb which has fallen under my observation. I give the artificial limb made by you the preference over all others, to those who apply to me for advice in such matters.

You are permitted to use my name as a reference, and are at liberty to use this letter in any manner you wish. In haste. Yours truly,

HORACE T. COOK.

MESSRS. PALMER &amp; Co.

## J. M. CHESBROUGH, ESQ.—A DISTINGUISHED BUSINESS MAN.

*Wheatfield, Niagara Co., N. Y., Sept. 4, 1856.*

MESSRS. PALMER & Co.—*Gentlemen* :—Some nine years past my left leg was amputated by Dr. Miller, of Providence, Rhode Island, four and a-half inches below the knee ;—four months from that day I left home to go to Meredith, N. H., to get one of your Patent Legs. About ten days after I was walking about as good as new (as my friends would say to me on meeting them). In some instances they would say, "I am very glad to see that you have not lost your leg, as I heard you had." More than one person has lived three months or more in my family and did not know I had lost a limb, and when they were told seemed very much surprised that it was possible to walk so well. I am now wearing the first leg I got. I have had one new socket, also, have a duplicate, but have not had occasion to use it much. I have never been sorry that I went to Meredith and obtained one of your Patent Legs.

Yours, with respect,

J. M. CHESBROUGH.

## AMPUTATION AT THE THIGH.

*Lowell, Mass., August 2, 1856.*

MESSRS. PALMER & Co. :—I am every way satisfied with your limb. I am in the grocery business, and on my legs from morning till night. I get out of and into a wagon many times a day, in delivering goods to customers ; and can roll and lift barrels and boxes of goods in and out of the wagon and cellar. I have never walked with a cane. Considering that I have a limb amputated above the knee, I think I have all I bargained for ; and I take pleasure in recommending your substitute above all others.

STEPHEN CASTLES, JR.

## CASE OF THIGH AMPUTATION.—(LITTLE GIRL FIVE YEARS OLD.)

*Norwich, Ct., September 23, 1856.*

Dr HUDSON—*Dear Sir* :—The leg you made for the little Daley girl is an admirable substitute for nature's ; she runs, plays, and goes to school, and seems scarcely to realize her misfortune. Yours, etc.,

ED. BENTLEY, M.D.

Rome, Oneida Co., March 28, 1859.

Messrs. PALMER & Co.—*Gent*:—I wish to express to all, who, like myself, have been unfortunate, my unqualified conviction that Mr. Palmer's Artificial Leg is the best one extant. I have examined many of the so called improved legs, and tried some, my leg having been amputated thirty-seven years. I have used one of yours during the past five years, in standing and walking continually during each day. It has afforded me the highest satisfaction, and cannot be too highly recommended.

I remain yours,

WM. McPHEE.

[Aus der „Turn-Zeitung.“]

### Beide Beine abgelöst.

Auszug aus einem Briefe von P. M. Peterson (129 dritte Straße, Williamsburg, N. Y.) an den Central-Vorstand des Turnerbundes (Washington, D. C.).

„Schließlich bin ich im Stande, Euch Nachricht zu geben in Betreff der künstlichen Beine, welche von Dr. Hudson nach Palmer's Patent (Palmer und Comp., 378 Broadway) für unsern unglücklichen Bruder J. Walser angefertigt worden sind. Er ist fähig, mit denselben alle Bewegungen der natürlichen Beine zu machen, kann ohne Hilfe eines Stockes gehen, und, wenn erforderlich, beinahe tanzen. Die freudigen Gefühle Walser's sind nicht zu beschreiben. Er ist auf einmal wieder ein Mann, und im Stande, in der Zukunft für sich selbst zu sorgen. . . .

Euer treuer

P. M. Peterson.“

### Extract of a Letter of J. S. ROBINSON, Esq.

Corning, March 23, 1859.

Messrs. PALMER & Co.— \* \* \* \* I must say that the leg you made for me is far superior to anything I have seen. I get about in my business with comfort, usefulness, and satisfaction. No one can appreciate the value of such a limb, save those who have lost the natural one, and been subjected to the use of crutches. The leg is yet good, though having been in constant use over four years.

I remain yours truly,

J. S. ROBINSON.

Northampton, Mass., December, 1858.

Messrs. PALMER & Co.—*Gentlemen*:—It is now nearly five years since I procured one of your Artificial Legs. The amputation of my leg being below the knee, I was told that I could do almost, or quite as well with one of yours, as with my natural leg! I did not then credit the statement, considering it overdrawn; but the *use and thorough trial* of the limb, has since convinced me that the statements were very truthful. I am a carpenter and joiner by trade, and since I have worn your limb, I have always been able to perform as much labor as any of my comrades. I can take my bunch of shingles, with perfect ease, to the roof of any building, as quickly as any one. I can, and often do, carry the heaviest timber-ends. In raising buildings some fifty feet in height, I have frequently gone upon the ridge and *nailed the rafters*, when older and able-bodied men have shrunk from the task. I drove a team for several months, for Frary & Bannister, of Williamsburgh, Mass., and used to load and unload the bags of grain and corn, weighing one hundred and twelve pounds, taking the bags from the *floor to the wagon*. These statements I make, and without exaggeration, to inspire others who are in a like condi-

tion, and also in justice to yourselves and the valuable invention, by which I am *restored* to my former activity and usefulness.

I have seen other so called *improved limbs*, made by persons formerly in your employ, who try to get a name therefrom, and to palm off an inferior compilation of tenon and mortise limbs, and others, with Palmer's exterior to hide the fact, and their lack of originality, with pain; feeling that the misfortune of losing a leg should suffice without any such additional imposition. We, who have tested Artificial Limbs by hard toil, can well judge of their merits. I have worked side by side with men in the workshop, who for months knew not that I had any other than natural feet. I find your limbs to be strong and durable, capable of enduring heavy labor and strain. I have not paid a dollar for repairs during the four years I have had the limb. "A good artificial limb is cheap at any price, truly, and a poor one is dear at any price."

I remain yours for artificial legs,

W. W. LE BARRON.

## LADIES' CORRESPONDENCE AND MONOGRAPHS.

[PUBLISHED BY PERMISSION.]

*From Mrs. Wm. H. Richardson, Jr., daughter of the late Hon. Wm. Barrett, of Malden, Mass.*

DR. B. FRANK PALMER.—*Dear Sir*:—Many years have elapsed since I was first induced to avail myself of the use of your wonderful Invention. It is with unfeigned satisfaction and heartfelt gratitude that I embrace this opportunity to give you the result of my experience in the use of your artificial limb. In the Winter of 1846, I was obliged to submit to the amputation of my left limb, above the knee-joint. You were then a "youth, to fortune and to fame unknown." I supposed I should be obliged to plod my weary way through the world upon the uncomfortable crutch. The prospect was, indeed, dark and desolate. My husband and friends were unceasing in their efforts to procure for me a substitute. At length we heard of an Artificial Leg manufacturer, whose mechanism was highly recommended. He was sent for, grievously was I disappointed. But now, a new light appeared from the distant hills of New Hampshire. It was, indeed, a "Star of Hope." The fame of your excellent mechanism had reached Boston; and although a very few had been made by you, still enough was developed to convince those who had witnessed the almost marvelous operation of your Artificial Limbs, that a new era in that branch of science had dawned. We speedily procured one for my use. For nearly *nine years* I wore the *first* limb you made for me, and not until within a few months have I been induced to order a duplicate; and even now a very slight expense will put it in such repair as will enable me to continue its use for years longer. *Durability, lightness, anatomical beauty and naturalness of motion*, are the crowning excellencies of your Invention. I walk *everywhere*, and am frequently complimented for the *ease* and *naturalness* with which I walk. Permit me, in closing, to congratulate you upon your well-won honors and your world-wide fame. Only those who have passed through the severe ordeal can *fully* appreciate the *priceless* value of your Invention. Without it, life would indeed be "a waste of wearisome hours."

With it, I feel that my loss, although among the greatest of afflictions, is shorn of its most trying features through your providential skill and genius.

Long may you live to carry hope to the heart of the unfortunate and joy to the desponding. With assurances of high appreciation,

I am, my dear sir, gratefully yours,

AUGUSTA M. RICHARDSON.

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FROM MISS M. COX.

New York, August, 1859.

Dr. E. D. HUDSON.—The perfect satisfaction with which I have thoroughly tested, for *four* successive years, your invaluable Artificial Limb, convinces me that I am depriving you of your just desert, and doing the suffering community injustice by wrapping its appurtenances in the mantle of self. You will forgive unintentional neglect however, when I add, that while miracles of mechanical invention crowd upon me, and I cast a thought over the whole field of scientific mechanical improvement taught by the consequences of my affliction, I truly feel that in application to human wants, as well as the *facilities* and *comfort* given to man—Mr. Palmer's invention stands preëminent, and that its symmetry of form, its finish, life-like action, and natural appearance, are rivaled only by its utility.

Gratefully to express, dear sir, the various deep sensations which swell *my* heart, would be to extol in strains of loftiest panegyric; with me despair no longer claims affinity. Taking a review of the peculiarities and disadvantages of my own case, I shall ever hold in proud and grateful remembrance your untiring energy, intrepidity, kind attention, and generous sympathies; and to all who like me have been suddenly plunged into the depths of misfortune cannot say more than that I stand a living monument of the triumphant success of your efforts. Proud of this, my particular prosperity (yet never for a moment losing sight of the draught in sorrow's cup), I will always feel it incumbent on me cheerfully to impart to those who pause upon the brink of doubt, all of my experience relative to the efficacy, action, and practical results of this redeeming power; assuring them that the most sanguine expectations will be fully realized.

M. COX.

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Heath, Mass., February 26, 1853.

MESSRS. PALMER & Co. :—Agreeably to promise, I will now inform you concerning the Artificial Leg you made for me. I have never been sorry that I exchanged my useless limb and crutch for one of your limbs.\* I like it very much, and have given it a pretty thorough trial in the constant use I have made of it during the twenty-two months since I had it adjusted. I taught school five months last year, and walked to and from my boarding place, half a mile, and to church and back, one mile, and the same distance and farther as often as I pleased, without fatigue. My friends, who opposed the operation and application of an artificial limb, are not only happily disappointed, but rejoice with me in my very natural and highly satisfactory outgoings and incomings with two good limbs, though one is artificial.

Yours very gratefully,

LUCRETIA KENDRICK.

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\* Amputation submitted to for an artificial limb.

Buffalo, N. Y., August 21, 1852.

Messrs. PALMER & Co.:—I wish to inform you of the invaluable blessing you have conferred upon me by your artificial limb. Prior to last May, I had never been able to walk on two limbs; one having been useless from infancy.\* I submitted to amputation that I might avail myself of one of your artificial limbs, and now I find myself blest with two natural-appearing and operating limbs, with which I walk, labor, and appear as if *both were truly natural*. No one not cognizant of the fact would suspect that I am in the use of an artificial limb. I have no words with which to express my joy and gratitude, both for the limb and to you, for your great kindness to me.

I am yours with the greatest esteem for your work's sake,

ELIZABETH MOORE.

Perry, Schuylcr County, N. Y., August 8, 1856.

Messrs. PALMER & Co.:—With reference to my Artificial Limb, it pleases me to inform you that, on my arrival at home, my parents and friends were completely overjoyed to see me walking so naturally. It was far beyond anything they ever anticipated. I have worn it daily, and have experienced no inconvenience whatever. Just one week from the day I put it on, I walked over half a mile in Syracuse, and, although somewhat fatigued, was not much more so than I have frequently been in the use of my natural feet; I can ascend and descend a pair of stairs with perfect ease, alternately using them. What a blessing it is to suffering mankind. Gladly will I do all in my power to relieve those who are so afflicted as to lose a limb.

Yours with much esteem,

MARY E. HOAG.

Newbury, Vt., July 8, 1856.

Messrs. PALMER & Co.:—Ten years of experimental knowledge have furnished me with indubitable proofs that the merit of "Palmer's Patent Limb" cannot be exaggerated, or its superiority over all others now in use questioned. Previous to possessing it, I wore several manufactured at different places, but they were so cumbersome, so unnatural in their movements, that the effort required to wear them seriously impaired my health, and I seemed doomed, in their use, either to an early grave, or a life of comparative retirement. When I heard of "Palmer's Patent Limb," I resolved to try again, and my highest hopes have been more than realized in its use. Art seems to have perfected herself in this substitute for Nature's own, so perfect in symmetry and natural in its movements, that strangers, and even surgeons, seldom detect it. I have made many an excursion in company, and am proud to say that in ascending mountains I was among the first to reach the summit, never hesitating, however rugged a path, if accessible to others, and performing with perfect ease the duties that devolve upon any one in active life. I confidently recommend it to all who may be in need of such aid, believing they will in no case fail of receiving perfect satisfaction. Yours respectfully,

SARAH J. OWEN.

\* Amputation submitted to for an artificial limb.

Lowell, Mass., August 4, 1856.

Messrs. PALMER & Co. :—I have the greatest pleasure in testifying my heartiest approval of the limb you made for me some time since. I have used it nine months, and in that space of time have had ample opportunity of testing its capability, and can assure you it has proved successful far beyond my sanguine expectations. I walk with perfect ease, and the utmost reliability, and think I have a great many years of life, health, and usefulness, to attribute to your beautiful and philanthropic invention, for with it I suffer but very little from the loss of my natural limb. I hope all who have been alike afflicted will avail themselves of your invention, for it needs but a trial to make one decidedly pleased with it. With sentiments of the highest respect,  
I remain yours very gratefully,

AGNES WINNEK.

West Newton, September 11, 1856.

Messrs. PALMER & Co.—It gives me pleasure to inform you of the satisfaction I have experienced from the use of my artificial limb. No one except a person who has been similarly afflicted, can tell how we poor cripples rejoice over the fact that we can have our loss so well compensated by the ingenuity of man.

Thus far, my limb has served me well, and I look forward with a pleasing hope into the future. Yours, truly,

SARAH R. BASSETT.

#### THIGH AMPUTATION.

Waltham, Mass., September 8, 1856.

Messrs. PALMER & Co.—*Sirs* :—It is with great pleasure I inform you that, so far, my daughter's leg has more than realized our expectations. She is enabled to walk with perfect ease and comfort, seldom using a cane, and to wear it all the day most wonderfully without pain. Permit me to offer my sincere thanks for the beautiful and useful limb, and the sympathy shown the little girl \* while she was with you to have it fitted. I subscribe myself yours,

MRS. G. HAYNES.

#### NEW YORK STATE AGRICULTURAL SOCIETY.

In addition to all of the *ordinary honors* conferred by this Institute, upon Mr. Palmer's Leg, the following *extraordinary award* was made by its President and Executive Committee, to wit :

##### EXTRACT OF A SPEECH

By Hon. J. Delafield, President of the New York A. Society, upon presenting the Gold Medal to B. Frank. Palmer, in 1851.

And now we turn from thoughts soothing and pleasurable to an object—important, 'tis true—an object foreign to the eye of most who are here present ; an object, the sight of which carries a chill to the heart, beating back the warm blood ; an object which I have no ability to treat with the encomium due to its merits.

It has been said that the medical profession is " a melancholy attendance on misery." There is another class of men alive to human woe, whose skill in mechanism entitles them to rank among the benefac-

\* Eleven years of age.

tors of their race, and by the happy application of that skill, pointing to a position having a connecting link with those men (physicians and surgeons), whose habits lead preëminently to the indulgence of deep and comprehensive thought.

These remarks, thus connected, are brought to mind by the award of a PRIZE MEDAL by the Royal Commissioners of the World's Fair to our countryman, Mr. B. F. Palmer, for an *Artificial Limb*—a work of art approaching (as I am informed), a symmetry of form equal to the models of ancient or modern sculpture, possessing, as a mechanism, a beauty of action and a finish hitherto unapproached, and as an object of utility to be appreciated as it deserves only by those who need the aid of this ingenious work.

To you, Mr. Palmer, we have the satisfaction of presenting the Gold Medal of this Society, as a testimony of your skill, and your benevolence to man—for their successful application in alleviating misfortune and restoring comfort and usefulness to suffering humanity.

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#### PARTICULAR DIRECTIONS TO

#### PERSONS WISHING TO PURCHASE LIMBS.

As free and perfect action of the stump as is possible should be obtained; a joint never should be allowed to remain flexed or semi-flexed *if it can be avoided*.

The stump should be bandaged tightly, to compress and solidify the cellular substance and adapt the shape to a *conical socket*.

To avoid an *unnecessary journey to us*, and detention, write, stating the nature of the case *clearly and minutely*, and await an answer. A Blank for *measurement* will be sent, with full instructions regarding the application of the leg or arm.

#### TO THE LADIES.

REFERENCES concerning the limb will be furnished to any lady desiring information. More than five hundred ladies, in different parts of the country, are now wearing this Limb.

#### HOW TO DIRECT.—PATENT RIGHT.

The RIGHT to manufacture PALMER'S PATENT LEG AND ARM in the States of MAINE, NEW HAMPSHIRE, VERMONT, MASSACHUSETTS, RHODE ISLAND, CONNECTICUT, and NEW YORK; also, in CANADA EAST, and NOVA SCOTIA, is owned by MESSRS. PALMER & Co. All persons who reside PERMANENTLY in either of those States, or countries, (and no others,) must apply to MESSRS. PALMER & Co.

The PATENT RIGHT for all other portions of the UNITED STATES, also, CANADA WEST, the WEST INDIES, GREAT BRITAIN, FRANCE, etc., is owned by the Inventor, whose Office is located at No. 1320 Chestnut Street, PHILADELPHIA, where all applications (except from the places above mentioned) must be directed, and the limbs manufactured. No departure from this rule is allowed.

Communications answered without charge.

Address, PALMER & CO.,

378 Broadway, New York, or 19 Green St., Boston.