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Lewis G. Janes.

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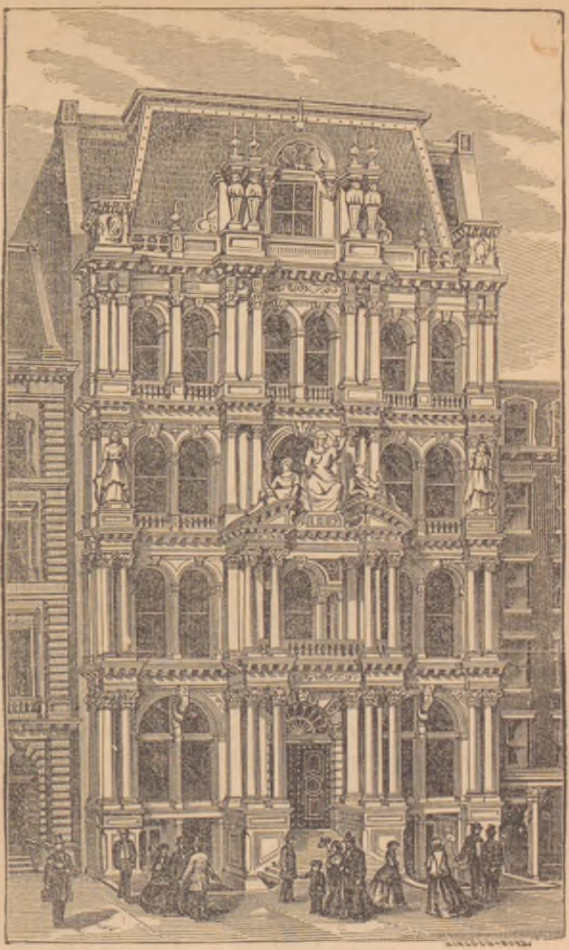

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HEALTH-EXERCISE:

THE RATIONALE AND PRACTICE

OF THE

LIFTING-CURE

OR HEALTH LIFT.

BY

LEWIS G. JANES,
PHYSICIAN AND INSTRUCTOR AT CURE.

"*Habitual exercise is the cause and condition of that vital renovation of parts which is the source and measure of constitutional vigor.*"—YOUMANS.

SIXTH REVISED EDITION.

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TO THE READER.

THE advocates of the Butler Health Lift meet everywhere an encouraging recognition of the necessity of *exercise*, but with this recognition, usually, a profound ignorance that there is a right and wrong *method* in exercise, as in everything else; and that the right method alone conduces in the highest degree to the acknowledged desideratum—Health. Even in the medical profession, this truth seems largely to have been ignored or overlooked. Yet a physician so eminent as the late Dr. BENJAMIN RUSH declared that "That physician does not err more who advises a patient to take physic, without specifying its quantities and doses, than the physician who advises the patient to use *exercise*, without specifying its species and degrees."

The object of this work, and the system which it advocates, is to separate the wheat from the chaff; to recognize the true method, and discard the false; to draw the line so distinctly that all may see the difference and obey the law. For his success in converting people to his views, the writer depends rather upon the practical results of the system than upon any felicity in presenting the argument in its favor. The immediate personal importance of the question to every man and woman leads him to hope that every stranger to the system herein presented, who sees this book, will peruse it carefully, and that the result of the perusal will be a prompt, practical trial of the Health Lift. In this event, the ultimate endorsement of the positions herein taken is not doubtful.

HEALTH-EXERCISE.

INTRODUCTORY.

THE Medical Profession has long recognized the remedial influence of proper exercise, as well as its invaluable agency in preventing disease, and various expedients have been devised and prescribed to secure its benefits. Pedestrianism, the Gymnasium, Horseback riding, Rowing, Calisthenics and the Movement Cure have each had their day, and are still resorted to, serving a good purpose, no doubt, as an aid to the development and use of the *vis medicatrix naturae.*

I propose briefly to present the claims of BUTLER'S LIFTING CURE, as a safer, more complete and more economical system of exercise than any other, commending itself particularly to the medical profession as an exercise *requiring little time*, admitting of *accurate prescription* to patients, fulfilling all the conditions of well-directed physical training, with safety from over-exertion and injury.

Unconnected with other questionable appliances or methods of treatment, it respectfully courts the investigation of all physicians who would have within reach, an exercise which they can recommend, without fear of interference with their line of practice in other directions. No longer a subject of experiment, but illustrated by more than a thousand living demonstrations of its beneficial and curative effects, endorsed by many eminent physicians and teachers in all branches of the

medical profession, the Lifting Cure yet makes its strongest appeal no less to the common sense of the practical man and woman in every walk of life, who value *health* as the greatest of earthly blessings, than to the intelligent medical practitioner.

THE PHILOSOPHY OF THE LIFTING EXERCISE.

In presenting the claims of the Lifting Cure, we do not refer to that indiscriminate, careless straining at heavy weights, on rude and imperfect apparatus, for the mere object of lifting an immense number of pounds avoirdupois of cold iron. Ordinary lifting, where the action is not properly graduated to the movement and condition of the body, and where the object is an inordinate development of some portions of the muscular system, is undoubtedly injurious in its effects as it is crude and unpleasant in its operation. The public as yet know little of the beautiful apparatus and system of training which are comprised in the Lifting Cure of Dr. BUTLER, by which exercise becomes pleasure instead of drudgery, and results in the development of the interior vital forces instead of the external muscles. Against the prevailing muscle-mania of the day we desire to enter our protest—firm and decided. In place of "Muscular Christianity"—a religion of externals, we would posit a *vital* religion. We would cultivate strength upon the basis of health; a strength which can be applied as readily to mental as to physical exertion, and without which a clear and vigorous mentality is impossible.

The new science of physical development bases itself on these fundamental principles:

First—Perfect mental as well as physical manhood is conditioned upon a system of *physical culture* as complete, as perfect, as scientific as that bestowed upon our intellectual nature.

While our minds have been civilized by culture, our bodies yet remain savages, undeveloped by any adequate exercise of

their wonderful organs. As well claim the superiority of the savage life of the Indian or Hottentot, who seeks his only mental culture in thought given to the necessary labors of each day, as uphold the sufficiency of a like mode of physical culture. We have the most complete system of mental culture which the world has known in our graduated, harmonious method of education, through primary, grammar, and university school, leading the mind easily from step to step to a comprehension of its powers. We do not place before the student simply the practical problems of every-day life, but, more wisely, we select that course of study which shall result in *the most perfect mental discipline*, knowing that with the power fully developed, conscious of his intellectual manhood, he can seize and master circumstances as they occur. Have we builded as wisely in our physical education?

The necessity of *exercise* has indeed been recognized; but the scientific, graduated, and thorough *culture* of all the bodily powers has been almost totally neglected. Physicians and Hygienic teachers have recommended exercise very much as our good old New England grandmothers believed in eating, careless whether the material was pork, butter, pickles, or health-giving bread. The writer was brought up in a family where the latest thought on health subjects, in book, magazine, or vocal instruction, was ever at hand. During his student days, his exercise was chiefly *walking*—never less than four miles a day in the open air, often twice that distance, with a tramp of six or seven hundred miles and a month or two of open-air life in the summer. All this did not prevent him from falling into three years of invalid life, which rendered him unfit for either mental or physical labor. This prepared him to accept the principle that it is not so much *exercise* and *food* that we need as *proper* exercise and *healthful* food; and he was ready to accept another principle of the new method of health exercise, which is,

Second—A scientific system of physical culture develops the whole body *harmoniously*, which can only be accomplished through a single co-operative action.

The nearest attempt at harmonious physical development which we have had hitherto, has been through an application of a variety of exercises to different parts of the body to bring out deficient organs and increase the strength of those already developed, as illustrated by the light gymnastics of Dio Lewis, and the varied appliances of the pangymnastikon and ordinary gymnasium. This attempt to develop the body by piecemeal has been necessarily a failure. It implies a perfect knowledge on the part of pupil and instructor of every part of the human frame, and the application of the exact kind and amount of exercise to secure its appropriate use and development; thus requiring an almost infinite intelligence to render it successful. Applied usually in classes, alike to weak and strong, while some have been temporarily benefited others have been permanently injured. We do not refer to this in a spirit of captious criticism, but simply to show how these inevitable failures of the old systems are obviated by the new. In the co-operative effort of lifting, on suitable apparatus, we have not only a *systematic* exercise, but the whole body, from head to foot, internal as well as external, vital as well as muscular tissue, viscera, veins, arteries, and mind itself through the will, is brought into simultaneous and effective action. But the necessity of lifting *properly* to secure this result, leads us to consider another principle embodied in scientific exercise, which is,

Third—The exercise must be *properly graduated;* not only must *each effort* be gradually adapted to the body, but varying conditions of strength and health, of natural temperament and present condition, must always be observed.

The Lifting Cure, unlike any other form of exercise, may be *accurately prescribed*, thus enabling us to secure this essential

result. By the action of springs the weight is taken upon the body pound by pound, and as gradually relieves the muscular tension in the reverse action. There is less liability to strain or injury in lifting heavy weights in this way than in any other form of exercise, even with light weights, or simple mechanical movements without weights. There is little of that soreness of muscle or stiffness of joint which comes to the novice from all other physical exertion. Exercise becomes a pleasure. Effort alternated with rest results in a glow and sense of exhilaration that no one unacquainted with the method can comprehend without personal trial. And there is no unpleasant reaction. Stimulation is not followed by weariness, but power developed is retained, not used up by frequent repetitions of the same degree of effort. The graduation of weights enables all degrees of strength to find accommodation; and the strength is gradually developed and increased by addition from day to day. No invalid is so weak, if able to take an upright position, with or without assistance, and to go through a simple motion, that he cannot receive benefit and invigoration. By the increase of weight, an increase of will-power is necessitated, so that mind as well as body is interested, not in external objects, as in horseback riding or walking, but in the exercise itself. A new life pulsates through the weary arteries; congestion is removed, impurities are forced from the system. Each organ or part helps every other. Man is a democracy of organs; none so poor or weak as to be slighted with impunity.

This graduation of the weight to the body by springs and rubber cartilages secures the other fundamental condition of a scientific physical culture, which is,

Fourth—Interior or vital action and development must predominate over external or muscular development.

All the old systems of physical training tend to inordinate development of the extremities; of limb and external muscle.

Vitality is drained to supply muscular tissue. The citadel is emptied of force to man the out-works. Man is made "iron-clad without; weak, rotten, and undeveloped within." But in exercise with a properly constructed lifting apparatus the effort is slow and graduated, bringing into action not only the larger muscles, but the more minute, and the internal organs themselves. Here the action culminates in its perfection, and here the predominant development takes place. Years of proper lifting do not produce the deformity of large and excessively hard muscle which would result from a few months of ordinary gymnastic exercise. The blood courses freely from center to circumference, the capillaries are cleared, and a new life-force leaps into every part of the system.

The idea of *lifting* as an exercise may be repugnant to many, from a false conception of the position of the body and mode of action. It is usually connected in the mind with the idea of stooping, or bending the body in an unnatural and constrained position, and with an effort which would result in injurious strain or over-exertion. Nothing could be further from a true conception of this beautiful application of the laws of physical culture. To *lift heavy weights* is not the prime object of this treatment; but the action should always be graduated to the condition of the patient. We propose briefly to explain why proper lifting is the *most perfect exercise* for a human being, and how it aids in effecting a cure of chronic, acute, and organic diseases and deformities.

FIRST—ITS ADAPTABILITY TO THE BONY STRUCTURE.

Various forms of apparatus for lifting graduated weights have been in use, from the rude appliances of the ordinary gymnasium, the combination of scale-beam and yoke-lifting machine, the ordinary spiral spring machine, the side-lifting apparatus invented and used by Dr. BUTLER several years since, but now

used chiefly in Chicago and Cincinnati by parties who pay Dr. BUTLER a royalty for the privilege, to the greatly improved apparatus now in use at our establishments, which, from long experience and practical tests upon more than a thousand patients, I believe to be incomparably superior to any and all others.

A minute description, in detail, of the lifting apparatus is unnecessary to our purpose. It is sufficient to say that the principles of its action are essentially those which govern the actions of the human body. It comprises a substantial table, through the center of which passes a vertical rod on which the graduating weights rest, varied to the condition of the patient. Between every joint in the machine are inserted artificial cartilages of rubber. The weight is suspended on a line with the feet, upon a steel spring, by means of the continuous rod, which is surmounted by an eye or socket, containing a pivot-rest, on which the handle, a cross-bar, padded with buckskin or rubber, is pressed in lifting. Beneath the platform, on which the patient stands, is a series of semi-elliptical or spiral springs, which are depressed as the weight is taken upon the body. This combination of spring and rubber, with central rod and handle, which is covered by the Butler patent, adapts the action of the machine to that of the body, prevents all injurious strain, secures a co-operation of the smaller muscles and the internal organs in the effort, and is absolutely essential to the most perfect curative results.

In lifting, the entire body, from hips to head, including the spine and viscera, maintains, throughout, its normal, upright position, obeying the fundamental law that no action which compels the body to assume an unatural, stooping posture, or any contortion whereby the viscera are disarranged from their natural condition of consecutive dependency, is allowable as a scientific method of health culture. The importance of maintaining this upright position of the body, even when at rest, can

hardly be over-estimated. Failure to do so is constantly resulting in visceral displacements, rupture, disturbed circulation, indigestion, and a large share of the ills which afflict humanity. The necessity of maintaining an upright posture *in action* must be even greater.

In lifting on this apparatus in this upright position the long bones of the limbs and the vertebral column are brought into proper relations for sustaining the greatest possible weight with safety. The *femur*, *tibia*, and *fibula*, the long bones of the leg, act as a column of levers in the direction of their greatest strength. The toes being turned well out and the knees bending outward, the *femurs* support each other in their pelvic sockets *like an arch*, the strongest mechanical position, instead of pressing backward and outward as in side and shoulder-lifting. The *vertebræ* act as a perpendicular column of levers, protected by their intervening cartilages, which are compressed and consolidated in their action instead of being separated, as in stooping, thus overcoming curvatures and deformities of the spine. Under the action of properly graduated weights, the spine is compelled to assume as nearly as possible a vertical position, which the muscular tensions, gradually increasing in power under the influence of the weights, tend to assist and render permanent. Ordinary lateral curvatures, double or single, rarely fail to yield to this treatment when properly applied. It has also proved effective in cases of inward curvature with breast deformities, stooping bodies, swollen joints, resulting from rheumatic or scrofulous affections, and many other similar cases. The long bones of the arm, the *humerus*, *ulna*, and *radius*, with the bones of the wrist and hand, one back and the other in front of the body, sustain the weight in the direction of their greatest strength, *in a central position beneath the body*, allowing proportionate exercise to the muscles and viscera of the front figure, instead of

giving a greater proportionate labor to the spine and muscles of the back, as in side and yoke-lifting. The point of suspension being as near the termination of the spine as possible, the weight is perfectly controlled, swaying with the body and bearing equally on every part, instead of allowing one side to lift more than the other, as is the liability of side-lifting. The strength of the hands is the measure of the power of raising weights, acting as a natural safeguard against over-exertion, the greater liability of shoulder-lifting. All the parts work harmoniously together, each sustaining its due proportion of labor, rendering the exercise perfectly safe, to the utmost limits of endurance, under a proper system of training.

SECONDLY—ITS ACTION ON THE EXTERNAL MUSCLES.

As with the bones, so also with the muscles. While the muscular is always rendered subordinate to the more important *vital* development and action, under The Lifting Cure, no other method of exercise gives the *muscular* system an action so complete and harmonious, calling, as it evidently does, upon forces of the entire body, from head to foot, in a simultaneous and effective effort.

Dr. Butler may well claim that, with his apparatus, *every muscle* of the body receives its appropriate share of exercise; for it is by no means uncommon for patients to perceive the muscular contraction upon the neck, face, scalp and ears, as well as the parts in more immediate approximation to the weight.

Nearly all the large muscles are acted upon *in the direction of their greatest length*, as are many of the smaller ones. Thus, the muscular coating of every minute vein and artery is compressed, with powerful and beneficial effect upon the *circulation*, as will be seen hereafter. The abdominal muscles, contracting

most powerfully, not only enable patients afflicted with *hernia* to exercise with perfect safety, but we have actually *cured* inguinal hernia, so that the patient has laid aside the truss after using it many years. There is not only no danger of injurious strain or rupture in proper lifting, but it furnishes the most hopeful prospect of an entire relief. So also, in cases of excessive abdominal deposit of adipose tissue, the tendency is always to solidify the flesh, and restore the natural proportions.

This powerful coöperative pressure of the external muscles upon the *viscera*, produces a mechanical action of those organs, more complete and effective than can possibly be derived from any partial or special application of exercise. This will be further demonstrated hereafter.

The fact that the entire muscular system is thus completely and thoroughly exercised *in a few minutes, without fatigue*, renders the Lifting Cure the briefest and most economical exercise for our business men, professional men, students, and all persons of sedentary habits, who are suffering from dyspepsia, nervousness, debility, and the long train of attendant ills, and who are debarred from ordinary exercise for *want of time*. It is also the surest *preventive* of these difficulties.

Rheumatism and all diseases of the muscular tissue here find their appropriate relief. The muscular power thus gained, is available, not only in lifting weights, but in whatever direction its exercise may be called forth.

Contrary, perhaps, to the ordinary opinion, the lifting of heavy weights, under a proper system of training upon this apparatus, does not tend to stiffen or harden the muscles. Much of the stiffness of joint and muscle which results from misdirected exercise is due to the production of continued impressions upon the muscular and bony system while in abnormal or constrained positions. The Lifting Cure, which avoids

this action, and never results in abnormal muscular development, secures not only vital power, but a proper degree of suppleness.

THIRDLY—ITS EFFECT ON THE VISCERA.

The chief value of the Lifting Cure as a remedial agent does not depend upon the exercise which it furnishes to the external muscles. A large proportion of the maladies which afflict humanity, and that, too, most dangerous to life and destructive to health, has its seat in the *viscera*—the internal or *vital organs* of the body.

Dr. E. P. Banning, in a recent work, lays down the following "fundamental propositions," among others, concerning the visceral status:

"The normal status of the weighty, lengthy, fragile, and irritable viscera, consists mainly in their being maintained *in the ascendant by their surrounding elastic abdominal walls*, in opposition to the state of consecutive dependency from their ligamentous attachments.

"In proportion as the body is erect, *and the abdominal and dorsal tissues energetic*, will this primary ascendant position be steadily maintained.

* * * "In proportion as these supporting tissues relax from any cause, there must ensue a corresponding change in the visceral status; they must lose their altitude, compactness, and support, and assume a loose, dangling, and elongated condition. In other words, a *lineal dislocation* is induced, involving a train of both physical and functional derangements, such as a solid common sense might clearly foretell."

What is more evident than that only a *proper exercise* of these abdominal walls, with an upright posture of the body, and a vital invigoration of the viscera themselves, can permanently restore them to their natural position and re-invigorate

their tissues? To this natural method of treatment, alike indicated by a "solid common sense," we invite all thus afflicted.

The position of the body brings all the internal organs as nearly as possible into their proper relations, and by perseverance ultimates in a permanent and effectual cure. Inguinal hernia or rupture is thus relieved by the compressing, contractile action of the abdominal muscles, which are consolidated instead of separated, tending to restore the parts to their proper positions and retain them there, by giving tone and vigor to them and their adjacent muscles.

Admitting the temporary convenience and occasional necessity of artificial and external support to the displaced organs, it is none the less evident that *permanent power* and *entire relief* can only be obtained by a graduated and appropriate exercise of the affected parts, in harmony with the entire body. Proper lifting can alone furnish the action desired.

It is a well-known physiological fact, that each organ has its proper *action;* hence, its *nerves,*—avenues for conveying the vital forces,—and its *muscular tissue,* which, by its power of expansion and contraction, furnishes the medium for this action. These organs are connected, directly and indirectly, with the external muscular tissue by *muscular attachments.* Thus, when the external muscles are brought into powerful, coöperative action, as in lifting slowly, properly graduated weights, not only the exterior tissue, but *the vital organs themselves,* receive their appropriate share of the exercise, and as really aid in lifting as the *biceps* or *rectus.* Thus, in lifting in a natural position, the strength of the human being, like that of a chain sustaining a weight, is tested by the strength of its *weakest link or part;* whether it be the hand, the leg, the spine, the liver, or the kidneys. Thus, also, the Lifting Cure becomes invaluable in the diagnosis of disease, unerringly indicating the weak or affected part.

The unnatural postures which many of the occupations of life are apt to induce, as bending over books and sewing-machines, bring the body into injurious and constraining positions, and are themselves sometimes sufficient to cause serious disease. The Lifting Cure, on the contrary, causing the body to assume its normal, upright posture, the external muscles aiding the weaker viscera in regaining their natural places, and the viscera themselves gaining strength by gentle and appropriate exercise, furnishes the most complete and effective cure for *prolapsus uteri* and all visceral displacements, by whatever cause induced.

As a matter of fact, we have met with remarkable success in treating this class of cases, when all the ordinary remedies had failed to produce relief. In the most serious cases, where walking and the ordinary forms of exercise would be impossible, our treatment is safe and sure.

FOURTHLY—ITS EFFECT ON THE CIRCULATION.

The action thus described upon the muscular and vital systems, reinvigorates the frame through its influence on the circulation.

Proper *nutrition* is essential to the preservation of health, and an indispensable element in the cure of disease. To secure it, it is necessary, 1st, to supply the system with wholesome food in proper quantities; 2d, to give strength and well-regulated action to the organs of the body, thus securing a healthy circulation of the blood. However healthful the food, unless the organs are powerful and healthy, it cannot be properly digested or assimilated.

Defective circulation, if not a cause, is an accompaniment to nearly all forms of chronic or acute disease; and if we can secure, through the medium of exercise, a uniformly healthy action and circulation of the blood, we strike at the root of the

difficulty and must accomplish its cure. The external symptoms are but the effort of Nature to accomplish this object. If we can aid her by freeing the channels from impurities, and cause the vital tide to flow unobstructed through every part, we furnish the means of most speedy relief. This the Lifting Cure most certainly accomplishes. As it gives to every part its proper share of exercise, its first effect is equalization. This influence of exercise obtained through the Lifting Cure, on the circulation and vital processes, and which no other exercise gives in so great perfection, has been so well summed up by Dr. Wm. Jay Youmans in his work on Physiology and Hygiene,* that I transcribe an extract from its pages.

"EFFECTS OF REGULATED EXERCISE. — All those vital processes which are essential to life, as digestion, *circulation*, respiration, secretion, are carried on independently of the will, and give rise to a large and constant amount of activity in the system. But labor and exercise are performed by calling into action an additional system of agencies—those of the voluntary muscles—and to maintain these in a state of activity, involves an extra requisition upon the various involuntary organs. As the materials of the body are derived from the substance of food, so all vital power is derived from the force stored up in the food. Organic matter is in a state of molecular tension, and, when decomposed, these tensions are given out in the form of physical forces. Food is organic matter, suited to undergo assimilation, and then to give out its molecular tensions in various forms, as animal heat, *muscular power*."

Mark well the bearing of the following paragraph on our subject: "It follows, that in work, or exercise, *the voluntary muscular system draws upon the involuntary functions for its*

* Elements of Physiology and Hygiene. Huxley & Youmans. New York: D. Appleton & Co.

supply of energy; and hence, IN PROPORTION TO THE FORCE EXPENDED, IS THE GENERAL EXALTATION OF THE VITAL PROCESSES."

The Lifting Cure produces preëminently this vital exaltation and action *without exhaustion,* instead of calling out muscular energy at the *expense* of the vital, as do other long continued and more violent exercises.

To quote again from Dr. Youmans, "As the circulation ministers immediately to all the functions, its energy rises and falls with their activity. *Exercise* increases the movements of the heart in both force and frequency, and accelerates the flow of blood through all parts of the body. The circulation is also aided by the contraction of the voluntary muscles, which by pressing on the walls of the veins, tends to force along the current of blood. Moreover, this increased activity of the circulation meets the increased demand of the muscles for new material, to renew the disintegrated structures; and it also speedily effects the removal of waste products, by rapidly transferring them to the proper eliminating organs. Thus, the complex stream from which the nutritive materials are constantly drawn, and into which waste matters are constantly poured, is directly affected both in its composition and rate of movement, by the state of action of the voluntary muscles.

"Exercise, also, it is well known, heightens the calorifying functions. It is through the increased activity of the circulation that the body is warmed by exercise."

These beneficial effects, which are partially and imperfectly obtained from ordinary exercise, are obtained more perfectly and completely from the coöperative effort of lifting. Instead of causing a congestion of the large arteries, with injurious effect upon the brain, as is sometimes the result of misdirected exertion, the Lifting Cure increases chiefly the *capillary action,* clearing out the impurities which may have been lodged in the

various ramifications of the venous and arterial network, and causing a delightful glow and exhilaration to the patient. It is wonderful to observe the potent influence of this treatment upon the skin and complexion. If yellow with jaundice or bile, overburdened with effete matters and obstructions, it shortly becomes clear and beautiful, acquiring the natural glow of health.

The influence of the Lifting Exercise upon all disorders arising from congestion, defective or unequal circulation is very marked. Congestive or nervous headaches are usually relieved by a single exercise, and where they have become chronic, are permanently cured by a proper course of this treatment. Many marked cases of this kind, even in persons well advanced in years, have come under my observation, and my own experience furnishes additional testimony to the relief furnished in these cases. Many acute pains in other portions of the system, of which congestion is the immediate cause, are relieved by the lifting, and, in process of time, their *cause* being removed, they return no more. The Lifting Cure also tends to prevent *hemorrhage* in cases of consumption and other weaknesses. Hemorrhage is always preceded by local weakness and congestion. If, by equalization, we can remove the congestion, and, at the same time, strengthen the weak parts, it is evident that the liability to a rupture of the part is greatly lessened. Thus, in many cases where local or excessive action would endanger an aggravation of unfavorable symptoms, the general action of a properly graduated lifting exercise will relieve and finally cure. Cold hands and feet, and torpid conditions of the vital organs, obstructing their healthy action, which are caused by defective circulation, here find their most appropriate remedy and a sure relief. Congestion of the liver, where other treatment had failed, and the life of the patient had been despaired of, has been cured.

FIFTHLY—ITS EFFECT UPON THE BRAIN, THE NERVOUS SYSTEM AND THE MIND.

Even more potent than the action of the Lifting Cure on the muscles, the viscera and the circulation, is its effect upon the brain and nervous system. To this influence, in a large measure, is its curative value due. Dr. Butler's remarks, in his work on "The Lifting Cure," upon this effect of the exercise have been somewhat criticised, and the possibility of its producing a marked influence on the brain and mind has been denied. Hence it may be well to note here the words of Dr. Youmans on the connection of body, brain and mind, which, it will be seen, completely support the position of Dr. Butler, and emphasize the importance of well-regulated exercise in securing healthy mental action.

"Nature," he says, "presents the problem, not of mind separate, but of mind and body bound up in a living unity, and the physiologist must take the question as he finds it."

Again: "It is now universally admitted that the brain is the grand nervous centre of thought and feeling—*the material instrument of the mind*, and that all mental actions *are accompanied and conditioned by physiological actions.* From the high complexity of composition of nervous matter, it is extremely unstable and prone to change. The brain is therefore not only, *like all other parts of the body*, subject to the double metamorphosis of waste and repair, but the transformations take place in this organ with more rapidity than in any other part of the system. * * * *If the cerebral circulation is lowered, mental activity is diminished; if accelerated, the mind's action is exalted.*"

Again: "It is important to note, not only that the mind and body are both governed by laws, but that they are to a great extent governed by the *same* laws. Whatever improves

the *physical qualities* of the brain, improves also the mind; whatever deteriorates the brain, impairs the mind. They have a *common development*, are equally increased in vigor, capacity and power *by judicious exercise*, and are alike injured by deficient or excessive effort. * * * As thus the mind is dependent upon the conditions of the brain, *while the brain is controlled by the bodily system*, we see how impossible it is to deal with the mental powers in a practical way without taking the material organization into account." * * * "As bodily and mental health depend in a great degree upon the same conditions, all that has been said concerning the sanitary influences which affect the corporeal system, has likewise its bearing upon health of mind."

It is well known that there is no cause of disease more powerful or more prevalent than derangement of the mental or nervous forces. A sudden shock, as when one unexpectedly hears of the death of a dear friend, will disturb the secretions, send the blood back from the extremities to the heart, and is sometimes of itself sufficient to cause serious physical disease. The severe strain upon the nervous system during the late war, the conflict and excitement of a population devoted to speculation and trade, are potent causes of disease, premature old age and death. Our lawyers and statesmen are struck down suddenly, in the prime of life, from over-mental exertion. How, then, shall we reverse this process, and use the nervous forces to reinvigorate and reconstruct the human being?

The Lifting Cure does this primarily through the concentrated, harmonious and powerful action of the *will*, through the *nerves*, upon the *muscular tissue*. All *action* originates in the brain, and is initiated through the action of the will on the nerves. In lifting properly graduated weights, increasing them slowly but surely from day to day, the will is constantly demanding increased action of the nervous forces, and they in their

...nt the errand to the muscular tissues. Were it not ...onstant, unvarying connection between will and nerve, and muscle, muscle and blood, we should seek in vain any curative result, or, indeed, for any result whatever. In this too much neglected, too little comprehended department of nervous energy we find the tap-root of our tree of life. Here must our constant culture be applied.

It is found by long experience, that, if the mind fails to become interested in the treatment, if the patient wants confidence, and hesitates, the cure is more doubtful and its accomplishment is delayed. But here, also, is indicated the chief excellence of our treatment;—that in calling on will and nerve-energy by ever increasing demands, and *never exhausting it by over action*, a harmony is finally established between nerve and muscle and circulation, that trinity which composes the physical being of the wonderful unit—MAN; by which his fell enemy, Disease, is most surely conquered and overthrown.

The perceptible increase of power, as measured by the steadily increasing capacity for lifting weights, gives a confidence and sure encouragement to the patient, the value of which can hardly be over-estimated. In *no other* treatment or physical exercise can we *measure* this power, and determine its augmentation from week to week. This is not merely a test of muscular power, but of *vital soundness*, or health. Encouraged by increasing strength, and corresponding gradual decrease of unfavorable symptoms, the patient perseveres in obeying the laws of health, which is the essential condition to the complete eradication of disease.

The *equalizing* influence of the lifting exercise upon the *nervous forces* is none the less positive and beneficial than upon the circulation of the blood. In cases of nervous debility it seems to produce the effect of a tonic, with no subsequent reaction or prostration.

The renewed energy given to mind as well as ... greatly in overcoming pernicious habits. Many of our ... under this influence, have discarded tobacco and stimu... without material discomfort or inconvenience, and it is needle... to say, with great benefit to mental and physical health.

In instances of over-nervous excitement, to which American people are peculiarly liable, the effect of this treatment is always sedative and quieting, and constantly invigorating. Many marked cases of improvement come under this head. In cases of chronic and acute neuralgia the Lifting Cure has effected some noticeable cures. One case in Boston, of ten years' standing, which had resulted in a partial paralysis of the lower limbs, yielded to this treatment, when the patient had been under the care of some of the most noted physicians in Europe and America, without obtaining any relief.

SIXTHLY—PHYSICAL CHANGES RESULTING FROM THE LIFTING EXERCISE.

From records of the weight, height, chest and waist measurement, and physical condition of each subscriber, taken at the time of commencing the exercise, and compared at intervals during its continuance, which comparisons have now been made in more than one thousand cases, we are enabled to ascertain the general influence of the exercise upon the form and proportions of the body. It has thus been demonstrated that the tendency of the Lifting Cure is to produce a *symmetrical development* of the human body, reducing the proportions when they exceed a normal standard, and increasing them when deficient. Thus we find that men below the height of five feet six inches, of whatever age, almost always increase slightly in stature under continued practice of the exercise, while those exceeding five feet ten or eleven inches in height correspondingly diminish under the same process.

, also, when the waist measurement exceeds the chest, as in rpulency, this measurement is always reduced and the proportions changed even when there is no reduction in the weight of the patient. On the contrary, in one or two rare cases of abnormal chest development, resulting from special gymnastic exercises, the consequence of this treatment has been to reduce the chest and enlarge the deficient waist.

Nine-tenths of all ordinary individuals will be found, from habit or nature, to be stronger on the right side of the body, arms, and legs, than upon the left, unless this tendency is modified by some organic weakness or disease affecting chiefly the right side. But the Lifting Exercise tends always to equalize this uneven development of the sides, and to render one as powerful and enduring as the other. In my own case I find, after four years' systematic practice of the Lifting Cure, very little difference in the strength of the sides, and have many times unconsciously used the left hand in operations where four years ago it would have been comparatively useless.

Very thin and spare people will always increase in weight under persistent practice of the Lifting Exercise, though the effect is not unusually the opposite of this during the first few weeks, until morbid matters are eradicated from the system. Fleshy people, on the contrary, are reduced in weight.

The muscular development resulting from long practice of this exercise is slight, is always the most marked where the deficiency on commencing is most noticeable, and is even and harmonious throughout the body. Physicians and surgeons, accustomed to note such conditions, have frequently remarked this symmetry of development before suspecting its cause.

The power developed by the practice of the Lifting Cure is always astonishing, accompanied as it is by so slight an increase of muscular size, thus demonstrating that it is quality rather

than quantity of muscle, based upon sound and healthy v conditions, that gives permanent and enduring strength.

To the growing child and youth who desires symmetry and firmness without the unwieldy clumsiness of abnormal muscular development, to the man or woman who would preserve or restore the form which nature intends to bestow upon a human being, to those of an advanced age who would arrest decay and prolong life, with the full use of every faculty, our system of physical training offers equally the most certain and effective method of securing these ends.

As illustrations of the foregoing principles, I select from our records the following cases:

1st. Mr. A., of Boston, printer, very corpulent, weight, 170 pounds on commencing treatment, in six weeks reduced his waist measurement five and one-half inches, increased the chest three inches, with a *gain* of two pounds in weight.

2d. Mr. G., of Boston, height five feet two inches on commencing, very small and slight in weight, in three months' exercise increased his height fully half an inch, weight increased fourteen pounds, chest three inches, waist two inches. His health was wonderfully improved, as he will to-day attest, although this comparison was made some three years ago.

3d. Mr. P., insurance agent, Massachusetts, in six weeks reduced his weight from two hundred and twenty-five to two hundred pounds, and his waist measurement three inches, though an ardent practice of the national game of base-ball had previously failed to effect the desired change. Similar results followed the treatment of Mr. W., paper manufacturer, who, after three months' practice, purchased an apparatus for home use, so much was he gratified with the result.

4th. Mr. B., student, tall and slender, seventeen years old, nearly six feet in height, chest thirty inches. waist twenty-seven inches, in three months *reduced* his height three-quarters of an

inch, increased his chest measurement three inches, waist two inches, and weight four pounds, with decided increase of physical vigor and endurance.

5th. Mr. W., seventy-four years old, weight one hundred and five pounds, height five feet two inches, stooping shoulders, had suffered forty years from asthma, after one year's exercise, from straightening the form, increased half an inch in height, one inch in chest measurement, lifted five hundred and twenty pounds, and testifies that he felt better and younger than he had for fifteen years.

We copy the following memoranda from our New York records:

6th. Mr. H., of Ohio, weight two hundred and thirteen pounds on commencing, in three weeks reduced seven pounds, and waist measurement about two inches.

7th. Mr. F., fifty-six years old,

	Weight.	Height.	Chest.	Waist.
On commencing,	119¾	5ft. 2½in.	31in.	29½in.
End of three months,	123	5ft. 3in.	32½in.	31¾in.

8th. Mr. R., in his seventieth year, stout and portly, in three months reduced his waist measurement three inches, with no change of weight.

9th. Mr. A. and Mr. S., well-known citizens of New York, commenced lifting about the same time, exercised three months with about the same gradation of weights. At the end of that time Mr. A., who was spare and thin, *increased* his height about half an inch, chest one inch, waist two inches, and weight six pounds, weighing at the end of the quarter more than ever before in his life, while Mr. S., of corpulent tendency, *reduced* his weight six pounds, and other measurements correspondingly. Thus we see, in different conditions of the system, diametri-

cally opposite results produced by the use of the *same* weights for about the same length of time.

These illustrations will suffice to show the general tendency of the Lifting Exercise to preserve and restore the natural proportions of the human body. It need only be added that this tendency to a natural and harmonious development of the body is uniformly accompanied by corresponding improvement in vital conditions, the essential basis of soundness and health.

SEVENTHLY—ITS CURATIVE EFFECTS.

Accepting our explanation of the effects of the treatment on the muscles, viscera, circulation and nervous system, the modus operandi of its curative influence will be readily conceived. Admitting its superiority as an *exercise*, it is unnecessary to urge farther its curative value, to intelligent physiologists and physicians. Galen wrote, long ago,—"If diseases take hold of the body, there is nothing so certain to drive them out as *diligent exercise.*"

Dr. Youmans, from whom I have quoted before, says: "If thus exercise be an essential condition of health, and the want of it a fruitful cause of disease, it is obvious that *only by the reëstablishment of the needed exercise* can health be regained."

This principle has long been received by the medical profession. In submitting the Lifting Cure as the most available, systematic, safe and agreeable form of exercise, we are simply supplying a method whereby physicians can secure this most desirable aid. It will readily be comprehended that a system of treatment which thus acts directly on the centres of vitality, aiding the natural processes of digestion, excretion, circulation and nervous energy, freeing the system from impurities and giving tone and life to the weakened organism, must be most effective and *permanent* in its results. Its method of cure in organic diseases, is, through the stimulation and strengthening

of the natural processes, to *create new organs*, uncontaminated by disease, unpoisoned by effete and decaying matters. Throughout the whole range of *chronic diseases*, we have met with unvarying success.

Where the difficulty is simply *weakness*, the Lifting Cure removes it by giving strength.

Where *deformity* exists, the Lifting Cure, by bringing the body into perfect position, under the stimulus given by properly graduated and increasing weights, tends always to remove it.

Where *displacement of organs* has resulted, from whatever cause, the Lifting Cure, by restoring them gradually to their natural position, and strengthening them, with their adjacent muscles, has proved most effectual as a cure.

Where *congestion*, or *unequal and torpid circulation* deranges the system, the Lifting Cure, by its harmonious and powerful influence, cannot fail to promote equalization and healthy action.

Where *pain* exists, resulting from congestion or unequal nervous action, the Lifting Cure, by equalization, quickly removes the difficulty.

Where there is *nervous debility*, from over-mental action or excess, the Lifting Cure, by presenting proper physical exercise, quiets, and restores the true equilibrium between body and mind.

Where *digestion is impaired*, or constipation exists, the powerful and beneficial action of graduated lifting speedily produces relief.

In *diseases peculiar to women*, the Lifting Cure, by furnishing proper physical and mental stimulus, has proved most efficient as a method of cure.

In *consumption* and lung diseases, the Lifting Cure, by its influence on the circulation and nutrition, and the powerful

and healthful action of the lungs which it induces, furnishes a most potent aid both in prevention and cure.

From all *humors*, the Lifting Cure, by its influence on the circulation, purifies the body.

In many *acute diseases*, if applied in season, the Lifting Cure furnishes immediate relief.

As a *preventive* of disease, the Lifting Cure furnishes the simplest, most effective and most available means.

In short, by presenting an agreeable form of exercise, capable of so gentle application that the most delicate invalid can safely attempt it, and, on the other hand, becoming the most powerful agent known, for physical culture and development, it is available to *all who need bodily exercise*—and who does not need it?

It works in harmony with all Hygienic agencies.

It invites the attention of all who seek restoration to health or an increase of physical vigor.

We especially and respectfully ask the investigation and favorable consideration of the Medical Profession, aiming to supply a need, and furnish an efficient aid to them in their labors for the alleviation of suffering humanity.

To physicians, and all interested to inquire, we will be pleased to give verbal statements of the effects of the treatment in individual cases, covering a wide range of diseases, which, for obvious reasons, we do not insert here.

All desiring information, are respectfully solicited to call at our rooms, where every facility for investigation will be furnished.

Better than any theory or explanation, is the sure test of practical experience. To this we invite all who would know more of the Lifting Cure.

THE APPARATUS OF THE HEALTH LIFT.

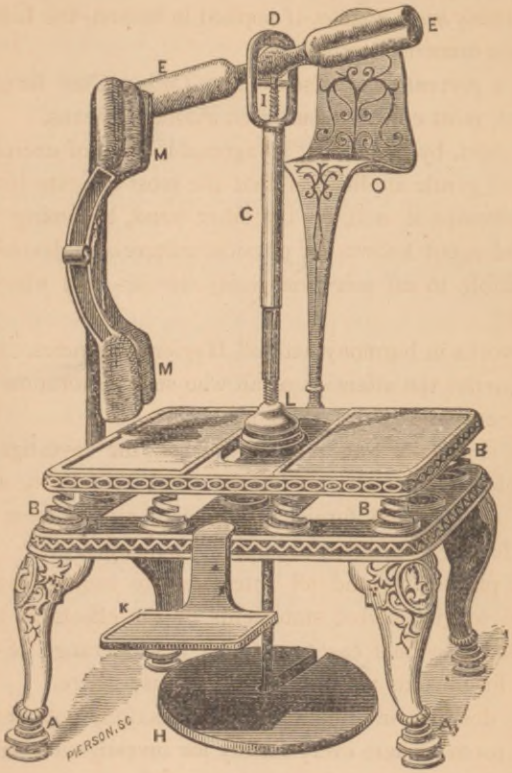

FIG. 1.

THE STANDARD IRON MACHINE.

The most perfect form of apparatus for the application of the Health Lift—that in use at our leading establishments, and in many private families, is represented in the accompanying cut (Fig. 1).

It comprises an upright iron table, the four legs of which rest upon solid glass or metal balls, inserted in iron cups, which enter the tops of four heavy volute springs (A,A,A,A). Beneath each of these springs is a simple arrangement for leveling the table. Upon the lower section of the platform are cups for ten volute springs (B,B) of varying capacities of tension, and upon these springs rests the upper platform, on which the pupil stands while taking the exercise. Underneath each of the legs and springs, wherever there is a joint or point of movement in the machine, are inserted artificial cartilages of rubber, which soften and modify the movement. Rubber plates or cushions are also placed underneath the feet, upon the upper platform.

Through the centre of the machine, as thus described, passes an upright rod (C), surmounted by an eye or socket (D), through which the lifting bar or handle (E) is passed, impinging upon a pivot at the top, and supported by a spiral spring and rest (I). This rod is varied in height by means of a double screw running through the upper portion. At its lower extremity, beneath the platform, are placed disks or weights of iron (H), varying from one to fifty pounds avoirdupois, and capable of exact graduation. This rod rests at the centre, on a level with the platform by means of a nut cushioned with rubber (L) upon one or more volute springs, of varying capacities, according to the weight to be attached below ; (K) represents the step, which may be inserted at the front or side of the machine; (O) the seat, inserted at the back.

The Standard machine occupies a space of 26 by 32 inches on the floor. The platform, on which the pupil stands, is 26 inches from the floor. The weight of the whole machine, including 600 pounds of lifting weights, is about 700 pounds. The seat and steps project slightly beyond the body of the machine, as may be seen in the cut.

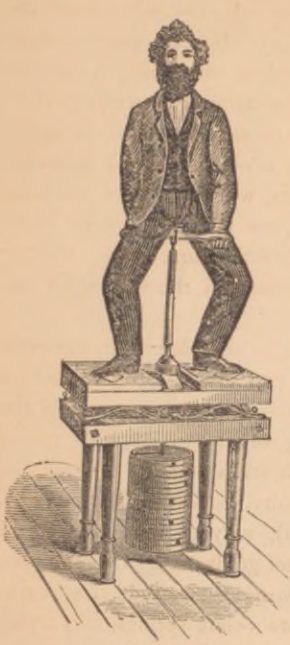

FIG. 2.
POSITION—WEIGHT AT REST.

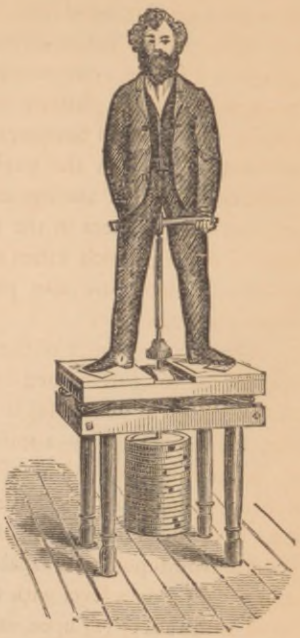

FIG. 3.
POSITION—WEIGHT RAISED.

THE WOODEN MACHINE.

Figures 2 and 3 represent a wooden table of corresponding construction, but without steps or seat, with semi-elliptic springs in the place of volute or spiral ones. This is an older form of apparatus, and is not considered quite as complete and perfect. In its best form it is usually constructed with spiral or volute springs in the centre, under the weight.

The wooden machine occupies a space of 24 by 36 inches on the floor, and its platform is from 28 to 36 inches from the floor, according to the length of the legs.

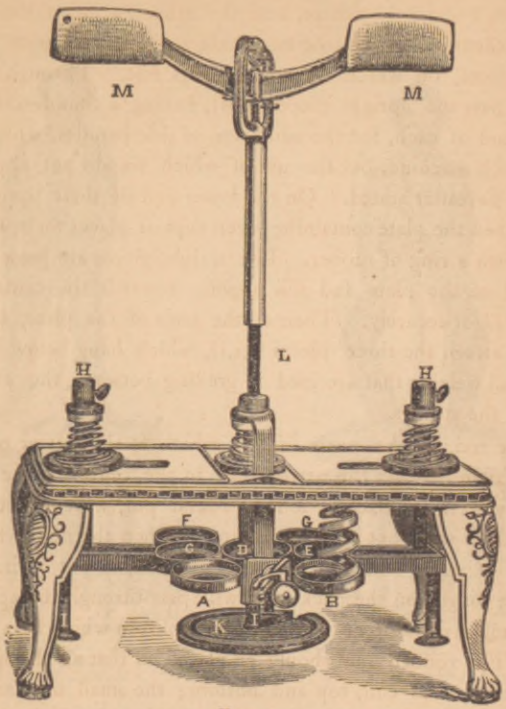

FIG. 4.

THE SPRING MACHINE.

Figure 4 represents the Spring Machine, whereby the tension of weights is simulated by the compression of graduated volute springs, of varying capacities. The machine in its construction and adjustment is thus described:

It comprises a low table, the legs of which rest on thick rubber cushions. These legs are fastened to the platform, at the four corners, by means of four nuts and screws. Upon either side of the platform are carpets of rubber, with slits corresponding with similar places in the platform. The three wire springs are placed upon the

platform, one in the centre, and the other two over the two slits. Under them are placed the two shallow rings, lined with rubber at the bottom, on which the wire springs rest. Through the side springs pass the upright pieces (H,H), having a thumb-screw on the upper end of each, for the admission of side handles, which accompany each machine, but the use of which we do not approve, for reasons hereafter stated. On the lower end of these upright pieces is attached the plate containing seven cups or places for springs, each lined with a ring of rubber. The upright pieces are passed through the end of the plate and slid slightly towards the centre, so that they hold it securely. Then at the ends of the plate, and in the centre, attach the three pieces (I,I,I), which hang below it to hold the small weights that are used in grading between the 25lb multiples of the springs.

The rod for the centre lift (L), which is the better one to use, is put down through the narrow slits in the centre of the platform, and keyed to its place by a long round pin, which should be inserted from the front of the machine. Then the bell, which is intended to strike when the weight is raised, is put in its place, so that the tongue on the back of it will pass through the spring plate and through the loop at the end of the iron pin which keys the lifting rod. The rubber rings should be placed so that all the springs will have one at each end, top and bottom; the small ones around the small knobs on the under side of the platform, and the larger ones in the cups (A,B,C,D,E,F,G).

The rod should be adjusted so that its length will permit the person to straighten the knees fully, just as the bell is struck. It requires to be a little shorter for a heavy weight, than for the lighter weights. The springs are arranged for the different weights as multiples of 25lbs., from 25lbs. to 700lbs according to the accompanying table. See page 47.

The spring machine is manufactured in two forms. The one generally preferred will stand within a space of 19 by 28 inches. The platform upon which the lifter stands is 15 inches above the floor. The weight of the machine is between 90 and 100 pounds.

The other form requires a space of 25 by 33 inches. Its height is the same as the other, and its weight slightly greater.

While these machines are not equal in all respects to the larger ones previously described, they offer the following practical advantages, viz:

1ST. CONVENIENCE.—The handling of large masses of iron is wholly obviated. They are small and low, light, easily transported, and so simple that a lady or child can arrange them for use.

2D. ELEGANCE.—In point of beauty they are not equalled by any other cheap machine of any manufacture, nor excelled by the most expensive of Dr. Butler's manufacture.

3D. ACCURACY OF ADJUSTMENT.—Unlike other cheap machines, they can be graded accurately, to a single pound, from 25 pounds upwards.

4TH. SPRING ACTION.—The spring action is more perfect in its facilities for adjustment to the varying weights, than that of any machine ever offered to the public at any price, thus aiding to secure the essential vital action, together with perfect safety.

5TH. SIDE AND CENTRE LIFTING.—This machine combines both of these methods of lifting, and can be changed in a moment from one to the other. Although we greatly prefer the centre lift, this may be deemed an advantage by many.

As an instrument for health exercise, we would commend it cordially to the public, confident that, if properly and systematically used, it will produce better results than any other cheap apparatus; for no other so perfectly embodies the underlying principles upon which the Butler Health Lift depends for its unprecedented success.

THE COMBINATION MACHINE.

By attaching to the central dependent rod (1) a screw and wheel, by which it is lengthened, with other slight changes, the spring machine is so arranged that it will receive nearly 500 pounds of dead weight. When used as a dead weight machine, three of the most powerful grade of weight springs may be substituted for the

three wire springs upon the platform. No springs are placed under the platform when the machine is used for a dead weight. Of course it is inferior to the standard machine first described, omitting, as it does, the spring platform and rests for the legs.

The combination machine occupies about the same space as the second form of spring machines. Its weight alone is slightly augmented, and is also increased by whatever amount of dead weight may be used with it.

PRICE OF APPARATUS.

The Standard Iron Machines first described are furnished by us for $300 each, with 600 lbs. of weights, two grades of straight handles, steps and seat, complete. Curved handles of different grades, adapting the centre lift to persons with short arms and long bodies, and additional straight handles are furnished at a slight additional expense. There is a small charge for boxing and carting, and the freight from Boston, which are always payable by the purchaser. Three or more of the best machines in one order will be furnished for $250 each, additional charges as above described.

The Wooden Machine is furnished for $250, with all the accompaniments of the iron machine except seat and steps. Extra charges the same. Three or more in one order, for $225 each. We have a few second-hand wooden machines, in good repair, which we can furnish for $200 each.

The Combination spring and dead weight machines are furnished for $150 each, with full quota of springs and a single handle. Additional handles extra. Other charges as before mentioned.

The Spring Machines, which avoid the use of weights, we furnish for $100 each, with single handle. Other charges as before mentioned.

A small portable spring machine we expect to be able to offer for $50. This is adapted to light weights, suitable for use during a summer vacation, or temporary absence from the health lift rooms.

CONDITIONS OF SALE.

FOR PRIVATE USE.

Each of these machines is furnished under a form of lease, prepared by the inventor, which is intended to prevent its public use by people not qualified by experience to apply the exercise properly to others. The necessity of such an arrangement will be evident to all. The lease is liberal in its terms, permitting any friend to use the apparatus, at the option of the lessee, and admitting of a transfer, if desired, to any other party who will accept the conditions of the lease. The lease can be seen at our office by any one desiring to obtain the apparatus.

FOR PUBLIC USE.

Special arrangements will be made by us with parties desiring to introduce The Health Lift for public use in other cities or towns. A form of lease especially adapted to that purpose is granted in such instances, which may be seen at our office.

METHOD OF LIFTING BY THE CENTRE LIFT.

In lifting, the entire body, from hips to head, maintains its normal upright position, precluding any displacement or unequal pressure on the viscera. The heels are placed equally distant from the rod, the toes turned well out, so that the knees bend outward, and the hip joints form an arch, the strongest mechanical position. The ankles should be on a line with the rod, not too far back or too far forward. The top of the shoulders should be well set back, the chest rounded out, the whole body square with the machine, without twist, the hips in a perpendicular line with the shoulders and ankles, the head straight up, and eyes slightly raised. Then by bending the knees as in Fig. 2, page —, the body is dropped astride the handle, without otherwise changing its position, and the hands clasp the handle firmly, one in front, and the other back, of the body. The weight is then raised by straightening the knees, without

drawing up the arms or shoulders in the least, until the knees are completely straight as in Fig. 3, page 33. The weight is then lowered as slowly as it was raised, and in the same manner, until the position in Fig. 2, is again reached, when the hands are unclasped, the body raised erect, as in lifting, but without the weight, and several full breaths taken. All this is done without changing in the least the upright position of the body; after which the pupil rests upon the lounge or chair

NUMBER OF LIFTS.

The number of lifts varies from four to eight, according to the natural temperament, habits, and present condition of the patient or pupil, and is graduated at each exercise from light to heavier weights, according to the accompanying tables.* A strong, vigorous man, who has little other exercise, will take eight lifts. A weak, nervous invalid, should begin with only four or six.

During the lift, the lungs should be moderately inflated, but not so much as to produce dizziness or stricture upon any part.

IMPORTANCE OF REST.

The rest between lifts and after the exercise is essential to secure the best results, giving time for a complete reaction to follow the absolute action of the lift, and preventing the inevitable exhaustion of frequent repetitions without rest.

FREQUENCY OF EXERCISE.

There are very few persons who would be benefited by taking the Lifting exercise more than once a day; and in most cases a daily exercise is advisable. Very weak invalids, persons with extremely small vitality, would do well to exercise only every other day, and with very moderate additions of weight.

There are occasional cases, where a part of the body is much weaker than the system generally, as in local paralysis, where an

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* See pages 49, 50, 51.

exercise twice a day is advisable. The weak part can be exercised more frequently with benefit, since the amount of exercise taxes the general vitality so little that shorter intervals of time are required for recuperation. So, also, in case of sudden headache, or other acute pain, after the regular exercise has been taken, another may be advisable. But people generally need to be reminded that the universal fault in all systems of exercise, is the tendency to overwork and exhaust the system. This should always be avoided.

TIME FOR EXERCISE.

The best time for taking the Health Lift is when the mind is most at rest, and can be given up, without haste, wholly to the treatment. If this condition can be secured three or four hours after breakfast, and before lunch or dinner, that hour is very desirable. In the middle of the day all the electrical conditions are favorable to the most vigorous effort. Severe exercise should not be taken for at least one or two hours after eating. There is no objection to taking this exercise shortly *before* eating, the only caution necessary being to guard against overeating as a result of the stimulus of the lift. People troubled for want of sleep may find the latter part of the day, or just before retiring, the best hour for exercising. Many business men prefer to lift after the labor of the day is over, since the mind is free from the anxieties of business, and can more readily receive and appropriate the benefits of the exercise. We would emphatically protest against the idea promulgated in some institutions, that little or no rest is necessary to secure the full benefits of the lift. Thus, one doctor, who ought to know better, has advertised: "One minute's exercise, three times a week, sufficient." Americans are too apt to "bolt," food, exercise, and all the essentials of life. The advocates of The Health Lift should aim to neutralize rather than foster this universal haste, which is eating away the life of the nation.

THE SIDE-LIFT COMPARED WITH THE CENTRE-LIFT.

In another part of this book we have expressed a preference for the centre-lift over the side-lift, and alluded to the anatomical reasons for our preference. We propose here to explain more fully these two methods of lifting, and illustrate their respective effects upon the body. Fig. 6, page 42, represents the position recommended and practiced by the advocates of the side-lift. It is copied very accurately from a cut used by them to illustrate the "correct position." It will be seen from the dotted line H H that the line of direct traction passes through the back of the head, the shoulders, which are attached in the skeleton at the *back* of the body, downward through the region of the spine and large muscles of the back. Thus it is evident that the result of exercising in this manner will be to develop chiefly the deltoid, dorsal and oblique muscles of the shoulders and back, which are located in the line of direct traction, and to neglect almost entirely the important central portion of the frame where the viscera are located, and the abdominal and chest muscles. One may be trained by this method to lift immense weights by the special culture of these few large muscles, with those of the leg and forearm, while the vital organs and front muscles of the body obtain but little strength from the exercise. Indeed, the effect in time must be, like that of any extreme special culture, to drain the general vitality in building up those local parts.

It has been claimed by some that the position of this line of tension may be varied by changing the position of the feet upon the platform, or that of the shoulders. But the attempt to centralize it, if the shoulders are kept well back, and the chest out, as they ought to be, results only in a position like that represented in Fig. 7, page 43. Here the dotted line D D representing the line of traction, passes very nearly through the centre of the body, but to secure this, the hips are thrown too far back, the body stoops forward, and an injurious cross-strain is produced from head to hips. The dotted line E E represents the direction of the body, and the true line of traction were it erect; and the angle between the two lines represents the amount of the cross-strain.

FIG. 5.

FIG. 6.

The only other possible attempt to correct this error of the side-lift, results in cramping the chest, and rounding the shoulders and back, in the endeavor to throw forward the line of traction, and still preserve the upright position; thus manifestly endangering the system, and violating the anatomical law.

The correct position, as illustrated in the proper use of our centre-lift machines, is represented in Figs. 2, 3 and 5. The objection usually urged against this method of lifting is that it induces a lateral twist of the body. That this is not true, is illustrated by Figs. 2 and 3, where the body is seen squarely fronting the spectator, as well as by the positions taken by pupils under training at our rooms. But the position of the hands, one in front of the body and the other behind, *controls* the weight in its proper position beneath the centre of the body, bringing the line of traction midway between back and front, as in Fig. 5, represented by dotted line A A, thus exercising equally the abdominal and pectoral muscles, as well as the centrally located viscera. For this and other reasons Dr. Butler, the original inventor of the side-lift, on which he has obtained letters patent, discarded it for the centre-lift.

FIG. 7.

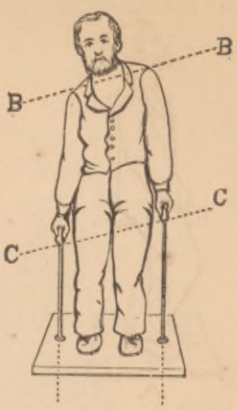

FIG. 8.

The change of hands, alternating from front to back, in the centre-lift, thus varying the traction upon the opposite sides of the body, produces a different and much more thorough exercise of the oblique muscles around the body, and the deltoid, flexor and extensor muscles of the shoulder and arm than is possible in the single, unvarying position of the side-lift.

Moreover, since almost every person is hereditarily stronger on one side of the body than the other (usually upon the right side), and since the side-lift allows one to stand nearer to one rod than the other, or to favor the weak side, there is danger that this inequality of strength will be perpetuated and increased, instead of being gradually obviated, as in the centre-lift. Persons lifting in this manner by side handles, are liable to raise one shoulder higher than the other, as in Fig. 8, thus tending to induce or perpetuate a lateral flexure of the spine.

The point of support in the centre-lift, being brought as near as possible to the absolute centre of the body, can be completely controlled by the position of the hands, one in front, and the other behind the body. If the body sways slightly during the lift, the

weight is thus carried along with it in its movement, and the inequalities of muscular action, which would take place under the side-lift, are thus prevented.

The centre-lift is *centralizing* in its effect. The limbs and muscles act together toward a single focus, thus penetrating most thoroughly to the vital centres, and arousing the torpid internal organs; whereas the side-lift, as we have seen in Fig. 6, taxes rather the external muscles of the back and sides, and neglects the more important vital centres. The centre-lift gives a paralytic patient a firm support while lifting, whereas the side-lift leaves him with a feeling of insecurity. The point of tension is too far from the hands and centre of the body to be available as a support.

The claim usually made for the side-lift, is that it allows ladies to exercise without the necessity of assuming the gymnastic dress. This fact, if we admit it, would be the strongest possible argument in favor of the centre-lift; for no lady, dressed in the ordinary combination of close-fitting corsets, and garments supported about the hips, can obtain a thorough exercise, without danger of congestion or visceral displacements as an effect of this compression, and the action of the exercise, forcing the blood into the compressed parts. But if the slight change necessary to give freedom of muscular action which would be essential to safety in the side-lift, be made, it is also sufficient to enable ladies to take exercise by the centre-lift, without the gymnastic dress, as many of our lady patrons will testify. Nevertheless, we decidedly advise the assumption of the gymnastic costume, in all cases. As a matter of fact, the institutions in Boston and New York, where the centre-lift is used, have had a larger proportion of lady patrons, than those in Chicago and Cincinnati, where the side-lift has been used.

Having the right to use and furnish to others both forms of apparatus, we can discuss this question without bias or prejudice. We may add that our opinion is also the opinion of Dr. Butler, the patentee of both forms of apparatus, Dr. Swain, of San Francisco, who has had longer experience than any one in the business except Dr. Butler, and of all our leading advocates of the system.

We think, however, the evident physiological reasons, and the practical results of the two systems should be sufficient to settle the question in favor of the centre-lift, without appeal to any personal authority, however good.

Patients troubled with spinal weakness or irritation, have found that increased by the severe strain brought upon that part of the body by the side-lift; and paralytic patients have complained to the writer of the feeling of insecurity they have experienced in trying it; though the same patients felt only beneficial effects from the use of the centre-lift.

SPRING ACTION.

It is perhaps unnecessary to enlarge upon the importance of a perfect spring action, in every form of lifting apparatus. Without it, the effect is hard, harsh, and is liable to be injurious. It is an external muscular action at the best. The dead weight lift does not penetrate and arouse the viscera to new life, as the gentle, soft, and yielding spring action inevitably does. Believing it to be essential to safety, and no less important in securing that all-important vital action and invigoration which is the foundation of the curative power of the Health Lift, we cannot do otherwise than affirm its importance in the strongest possible manner. It is a vital point in the Butler patent, and the inventor assures us that it will be protected.

This spring action is found in perfection only in the apparatus used and furnished by us; having been the subject of most careful study and experiment by the inventor for seven years.

In conclusion we would again say, that the Health Lift must be tested rather by its fruits than by its theories. We invite all to examine our testimonials from the profession and the people, and to apply the more important test of practical, personal trial.

DIRECTIONS

FOR ADJUSTING THE SPRINGS TO REPRESENT THE WEIGHTS TO BE LIFTED.

In Fig. 4, p. 34, the spring-plate, which is seen under the platform of the machine, has seven cups, marked A, B, C, D, E, F and G, in which the springs representing the weights to be lifted are placed.

There are three Drab springs, representing 25 lbs. each; three Red, of 50 lbs. each; and four Blue, of 125 lbs. each.

A weight of 25 lbs. is represented by the spring-plate, rod and handle. They also make up 25 lbs. of the weight in every lift.

Table A, p. 47, shows which springs are to be placed in the cups to make weights of the multiples of 25 lbs. up to 700 lbs. For instance, a weight of 400 lbs. is represented by a Blue spring in cup A, a Red in B, a Drab in D, a Red in F, and a Blue in G.

Weights requiring additional fractions of 25 lbs. are made up by adding a sufficient amount of the small weights. For instance, a weight of 413 lbs. is made by arranging the springs, as directed above, for 400 lbs., and adding two 5 lb. weights, one 2 lb. and a 1 lb. weight on the centre pendant I.

In the spring-plate of some of the machines, the cups marked C and E in Fig. 4, p. 34, are omitted, and Table B, p. 48, is prepared for use in adjusting the springs on those machines.

Weights.	*A*	*B*	*C*	*D*	*E*	*F*	*G*
50....				Drab			
				25			
75....	Drab						Drab
	25						25
100....	Drab			Drab			Drab
	25			25			25
125....	Red						Red
	50						50
150....	Red			Drab			Red
	50			25			50
175....	Red			Red			Red
	50			50			50
200....	Red	Drab		Drab		Drab	Red
	50	25		25		25	50
225....	Red	Drab		Red		Drab	Red
	50	25		50		25	50
250....	Red			Blue			Red
	50			125			50
275....	Blue						Blue
	125						125
300....	Blue			Drab			Blue
	125			25			125
325....	Blue	Drab				Drab	Blue
	125	25				25	125
350....	Blue	Drab		Drab		Drab	Blue
	125	25		25		25	125
375....	Blue	Red				Red	Blue
	125	50				50	125
400....	Blue	Red		Drab		Red	Blue
	125	50		25		50	125
425....	Blue	Red		Red		Red	Blue
	125	50		50		50	125
450....	Blue	Red	Drab	Drab	Drab	Red	Blue
	125	50	25	25	25	50	125
475....	Blue	Red	Drab	Red	Drab	Red	Blue
	125	50	25	50	25	50	125
500....	Blue	Red		Blue		Red	Blue
	125	50		125		50	125
525....	Blue	Blue				Blue	Blue
	125	125				125	125
550....	Blue	Blue		Drab		Blue	Blue
	125	125		25		125	125
575....	Blue	Blue		Red		Blue	Blue
	125	125		50		125	125
600....	Blue	Blue	Drab	Drab	Drab	Blue	Blue
	125	125	25	25	25	125	125
625....	Blue	Blue	Drab	Red	Drab	Blue	Blue
	125	125	25	50	25	125	125
650....	Blue	Blue	Red	Drab	Red	Blue	Blue
	125	125	50	25	50	125	125
675....	Blue	Blue	Red	Red	Red	Blue	Blue
	125	125	50	50	50	125	125
700....	Blue	Blue	Red	Red	Red	Blue	Blue
	125	125	50	50	50	125	125

And all the small iron weights.

TABLE B.

Weight.	*A*	*B*	*D*	*F*	*G*
50			Drab		
			25		
75	Drab				Drab
	25				25
100	Drab		Drab		Drab
	25		25		25
125	Red				Red
	50				50
150	Red		Drab		Red
	50		25		50
175	Red		Red		Red
	50		50		50
200	Red	Drab	Drab	Drab	Red
	50	25	25	25	50
225	Red	Drab	Red	Drab	Red
	50	25	50	25	50
250	Red		Blue		Red
	50		125		50
275	Blue				Blue
	125				125
300	Blue		Drab		Blue
	125		25		125
325	Blue		Red		Blue
	125		50		125
350	Blue	Drab	Drab	Drab	Blue
	125	25	25	24	125
375	Blue	Drab	Red	Drab	Blue
	125	25	50	25	125
400	Blue	Red	Drab	Red	Blue
	125	50	25	50	125
425	Blue	Red	Red	Red	Blue
	125	50	50	50	125
450	Blue	Drab	Blue	Drab	Blue
	125	25	125	25	125
475	Blue	Drab	Blue	Red	Blue
	125	25	125	50	125
500	Blue	Red	Blue	Red	Blue
	125	50	125	50	125
525	Blue	Blue		Blue	Blue
	125	125		125	125
550	Blue	Blue	Drab	Blue	Blue
	125	125	25	125	125
575	Blue	Blue	Red	Blue	Blue
	125	125	50	125	125
600	Blue	Blue	Red	Blue	Blue
	125	125	50	125	125

And all the small iron weights.

Table for Grading Weights.

3 Grades. 50 to 250 lbs.			4 Grades. 50 to 250 lbs.				4 Grades. 250 to 500 lbs.				4 Grades. 500 to 750 lbs.			
25	40	50	25	35	45	50	125	190	235	250	250	375	470	500
30	45	55	25	40	50	55	130	195	240	255	255	380	475	505
30	50	60	30	45	55	60	130	195	245	260	255	385	480	510
35	55	65	35	50	60	65	135	200	250	265	260	390	485	515
35	60	70	35	55	65	70	135	205	255	270	260	390	490	520
40	65	75	40	60	70	75	140	210	260	275	265	395	495	525
40	70	80	40	60	75	80	140	210	265	280	265	400	500	530
45	75	85	45	65	80	85	145	215	270	285	270	405	505	535
45	75	90	45	70	85	90	145	220	275	290	270	405	510	540
50	80	95	50	75	90	95	150	225	280	295	275	410	515	545
50	85	100	50	75	95	100	150	225	280	300	275	415	520	550
55	90	105	55	80	100	105	155	230	285	305	280	420	525	555
55	90	110	55	85	105	110	155	235	290	310	280	420	530	560
60	95	115	60	90	110	115	160	240	295	315	285	425	535	565
60	100	120	60	90	110	120	160	240	300	320	285	430	540	570
65	105	125	65	95	115	125	165	245	305	325	290	435	545	575
65	110	130	65	100	120	130	165	250	310	330	290	435	550	580
70	115	135	70	105	125	135	170	255	315	335	295	440	555	585
70	120	140	70	105	130	140	170	255	320	340	295	445	560	590
75	125	145	75	110	135	145	175	260	325	345	300	450	565	595
75	130	150	75	115	140	150	175	265	330	350	300	450	570	600
80	135	155	80	120	145	155	180	270	335	355	305	455	575	605
80	140	160	80	120	150	160	180	270	340	360	305	460	580	610
85	140	165	85	125	155	165	185	275	345	365	310	465	585	615
85	145	170	85	130	160	170	185	280	350	370	310	465	590	620
90	150	175	90	135	165	175	190	285	355	375	315	470	595	625
90	155	180	90	135	170	180	190	285	360	380	315	475	600	630
95	160	185	95	140	175	185	195	290	365	385	320	480	605	635
95	165	190	95	145	180	190	195	295	370	390	320	480	610	640
100	170	195	100	150	185	195	200	300	375	395	325	485	615	645
100	170	200	100	150	185	200	200	300	375	400	325	490	620	650
105	175	205	105	155	190	205	205	305	380	405	330	495	625	655
105	180	210	105	160	195	210	205	310	385	410	330	495	630	660
110	185	215	110	165	200	215	210	315	390	415	335	500	635	665
110	190	220	110	165	205	220	210	315	395	420	335	505	640	670
115	195	225	115	170	210	225	215	320	400	425	340	510	645	675
115	200	230	115	175	215	230	215	325	405	430	540	510	650	680
120	205	235	120	180	220	235	220	330	410	435	345	515	655	685
120	210	240	120	180	225	240	220	330	415	440	345	520	660	690
125	215	245	125	185	230	245	225	335	420	445	350	525	665	695
125	220	250	125	190	235	250	225	340	425	450	350	525	670	700
...	...	...	...	...	...	...	230	345	430	455	355	430	675	705
...	...	...	...	...	...	...	230	345	435	460	355	535	680	710
...	...	...	...	...	...	...	235	350	440	465	360	540	685	715
...	...	...	...	...	...	...	235	355	445	470	360	540	690	720
...	...	...	...	...	...	...	240	360	450	475	365	545	695	725
...	...	...	...	...	...	...	240	360	455	480	365	550	700	730
...	...	...	...	...	...	...	245	365	460	485	370	555	705	735
...	...	...	...	...	...	...	245	370	465	490	370	555	710	740
...	...	...	...	...	...	...	250	375	470	495	375	560	715	745
...	...	...	...	...	...	...	250	375	470	500	375	565	720	750

Table for Grading Weights.

5 Grades. 500 to 750 lbs.				
250	375	440	480	500
255	380	445	485	505
255	385	450	490	510
260	390	455	495	515
260	390	455	500	520
265	395	460	505	525
265	400	465	510	530
270	405	470	515	535
270	405	473	520	540
275	410	480	525	545
275	415	485	530	550
280	420	490	535	555
280	420	490	540	560
285	425	495	545	565
285	430	500	550	570
290	435	505	555	575
290	435	510	560	580
295	440	515	565	585
295	445	520	570	590
300	450	525	575	595
300	450	525	575	600
305	455	530	580	605
305	460	535	585	610
310	465	540	590	615
310	465	545	595	620
315	470	550	600	625
315	475	555	605	630
320	480	560	610	635
320	480	560	615	640
325	485	565	620	645
325	490	570	625	650
330	495	575	630	655
330	495	580	635	660
335	500	585	640	665
335	505	590	645	670
340	510	595	650	675
340	510	595	655	680
345	515	600	660	685
345	520	605	665	690
350	525	610	670	695
350	525	615	670	700
355	530	620	675	705
355	535	625	680	710
360	540	630	685	715
360	540	630	690	720
365	545	635	695	725
365	550	640	700	730
370	555	645	705	735
370	555	650	710	740
375	560	655	715	745
375	565	660	720	750

5 Grades. 750 to 1000 lbs.				
375	565	660	720	750
380	570	665	725	755
380	570	665	730	760
385	575	670	735	765
385	580	675	740	770
390	585	680	745	775
390	585	685	750	780
395	590	690	755	785
395	595	695	760	790
400	600	700	765	795
400	600	700	765	800
405	605	705	770	805
405	610	710	775	810
410	615	715	780	815
410	615	720	785	820
415	620	725	790	825
415	625	730	795	830
420	630	735	800	835
420	630	735	805	840
425	635	740	810	845
425	640	745	815	850
430	645	750	820	855
430	645	755	825	860
435	650	760	830	865
435	655	765	835	870
440	660	770	840	875
440	660	770	845	880
445	665	775	850	885
445	670	780	855	890
450	675	785	860	895
450	675	790	860	900
455	680	795	865	905
455	685	800	870	910
460	690	805	875	915
460	690	805	880	920
465	695	810	885	925
465	700	815	890	930
470	705	820	895	935
470	705	825	900	940
475	710	830	905	945
475	715	835	910	950
480	720	840	915	955
480	720	840	920	960
485	725	845	925	965
485	730	850	930	970
490	735	855	935	975
490	735	860	940	980
495	740	865	945	985
495	745	870	950	990
500	750	875	955	995
500	750	875	960	1000

6 Grades. 750 to 1000 lbs.					
375	565	660	705	735	750
380	570	665	710	740	755
380	570	665	715	745	760
385	575	670	720	750	765
385	580	675	725	755	770
390	585	680	730	760	775
390	585	685	735	765	780
395	590	690	740	770	785
395	595	695	745	775	790
400	600	700	750	780	795
400	600	700	750	785	800
405	605	705	755	790	805
405	610	710	760	795	810
410	615	715	765	800	815
410	615	720	770	805	820
415	620	725	775	810	825
415	625	730	780	815	830
420	630	735	785	820	835
420	630	735	790	825	840
425	635	740	795	830	845
425	640	745	800	835	850
430	645	750	805	840	855
430	645	755	810	845	860
435	650	760	815	850	865
435	655	765	820	855	870
440	660	770	825	860	875
440	660	770	825	865	880
445	665	775	830	870	885
445	670	780	835	875	890
450	675	785	840	880	895
450	675	790	845	880	900
455	680	795	850	885	905
455	685	800	855	890	910
460	690	805	860	895	915
460	690	805	865	900	920
465	695	810	870	905	925
465	700	815	875	910	930
470	705	820	880	915	935
470	705	825	885	920	940
475	710	830	890	925	945
475	715	835	895	930	950
480	720	840	900	935	955
480	720	840	900	940	960
485	725	845	905	945	965
485	730	850	910	950	970
490	735	855	915	955	975
490	735	860	920	960	980
495	740	865	915	965	985
495	745	870	930	970	990
500	750	875	935	975	995
500	750	875	940	980	1000

Table for Grading Weights.

6 Grades.

1000 to 1250 lbs.

500	750	875	940	980	1000
505	755	880	945	985	1005
505	760	885	950	990	1010
510	765	890	955	995	1015
510	765	895	960	1000	1020
515	770	900	965	1005	1025
515	775	905	970	1010	1030
520	780	910	975	1015	1035
520	780	910	975	1020	1040
525	785	915	980	1025	1045
525	790	920	985	1030	1050
530	795	925	990	1035	1055
530	795	930	995	1040	1060
535	800	935	1000	1045	1065
535	805	940	1005	1050	1070
540	810	945	1010	1055	1075
540	810	945	1015	1060	1080
545	815	950	1020	1065	1085
545	820	955	1025	1070	1090
550	825	960	1030	1075	1095
550	825	965	1035	1080	1100
555	830	970	1040	1085	1105
555	835	975	1045	1090	1110
560	840	980	1050	1095	1115
560	840	980	1050	1100	1120
565	845	985	1055	1105	1125
565	850	990	1060	1110	1130
570	855	995	1065	1115	1135
570	855	1000	1070	1120	1140
575	860	1005	1075	1125	1145
575	865	1010	1080	1130	1150
580	870	1015	1085	1135	1155
580	870	1015	1090	1140	1160
585	875	1020	1095	1145	1165
585	880	1025	1100	1150	1170
590	885	1030	1105	1155	1175
590	885	1035	1110	1160	1180
595	890	1040	1115	1165	1185
595	895	1045	1120	1170	1190
600	900	1050	1125	1175	1195
600	900	1050	1125	1180	1200
605	905	1055	1130	1185	1205
605	910	1060	1135	1190	1210
610	915	1065	1140	1195	1215
610	915	1070	1145	1200	1220
615	920	1075	1150	1205	1225
615	925	1080	1155	1210	1230
620	930	1085	1160	1215	1235
620	930	1085	1165	1220	1240
625	935	1090	1170	1225	1245
625	940	1095	1175	1230	1250

The table for four grades below 250 lbs. is usually preferable, except for extremely light weights, when the patient lifts only six times. In the heavier weights, the tables indicating the greater number of grades should be followed when the greatest accuracy and best possible results are desired.

CONTENTS.

INDEX TO CUTS.

INDEX.