

Denison (Ch)

CHICAGO
MEDICAL PRESS
ASSOCIATION
LIBRARY

THE

EXTENSION WINDLASS.

Presented to

~~READ BEFORE THE AMERICAN MEDICAL~~
ASSOCIATION, MAY, 1875.

BY

CHARLES DENISON, M. D.

DENVER, COLORADO.

l

[REPRINTED FROM THE NEW YORK MEDICAL JOURNAL, MAY, 1875.]

SURGEON GENERAL'S OFFICE
LIBRARY
Box 57

NEW YORK:
D. APPLETON AND COMPANY,
549 & 551 BROADWAY.
1875.

THE POPULAR SCIENCE MONTHLY,

(Established May, 1872.)

Conducted by Prof. E. L. YOUMANS.

THE POPULAR SCIENCE MONTHLY was started to promote the diffusion of valuable scientific knowledge, in a readable and attractive form, among all classes of the community, and has thus far met a want supplied by no other periodical in the United States.

The great feature of the magazine is, that its contents are not what science was ten or more years since, but what it is to-day, fresh from the study, the laboratory, and the experiment: clothed in the language of the authors, inventors, and scientists themselves, which comprise the leading minds of England, France, Germany, and the United States. Among popular articles, covering the whole range of NATURAL SCIENCE, we have the latest thoughts and words of Herbert Spencer, and Professors Huxley, Tyndall, and R. A. Proctor. Since the start, it has proved a gratifying success to every friend of scientific progress and universal education; and those who believed that science could not be made any thing but dry study are disappointed.

The press all over the land is warmly commending it. We subjoin a few encomiums from those recently given:

"That there is a place for THE POPULAR SCIENCE MONTHLY, no one can doubt who has watched the steady increase of interest in scientific investigation manifested in this country, not only by a select class, but by the entire community."—*New York Times*.

"A journal which promises to be of eminent value to the cause of popular education in this country."—*New York Tribune*.

"It is, beyond comparison, the best attempt at journalism of the kind ever made in this country."—*Home Journal*.

"The initial number is admirably constituted."—*Evening Mail*.

"We think it is not too much to say that this is the best first number of any magazine ever published in America."—*New York World*.

"It is just what is wanted by the curious and progressive mind of this country, and ought to be widely circulated."—*New York Evening Post*.

"It is the first successful attempt in this country to popularize science in the pages of a monthly."—*N. Y. School Journal*.

"Not the less entertaining because it is instructive."—*Philadelphia Age*.

"THE MONTHLY has more than fulfilled all the promises which the publishers made in the prospectus of publication."—*Niagara Falls Gazette*.

"It places before American readers what the ablest men of science throughout the world write about their meditations, speculations, and discoveries."—*Providence Journal*.

"This is a highly auspicious beginning of a useful and much-needed enterprise in the way of publication, for which the public owe a special debt of obligation to Messrs. D. Appleton & Co."—*Boston Gazette*.

"This new enterprise appeals to all who are interested in the laudable effort of diffusing that information which is best calculated to expand the mind and improve the conditions and enhance the worth of life."—*Golden Age*.

"Just the publication needed at the present day."—*Montreal Gazette*.

"This new magazine, in our estimation, has more merit than the whole brood which has preceded it."—*Oswego Press*.

"In our opinion, the right idea has been happily hit in the plan of this new monthly."—*Buffalo Courier*.

"This is one of the very best periodicals of its kind published in the world. Its corps of contributors comprise many of the ablest minds known to science and literature. It is doing a great and noble work in popularizing science, promoting the growth of reason, and leveling the battlements of old superstitions reared in the childhood of our race before it was capable of reasoning."—*The American Medical Journal*, St. Louis, Mo.

"This magazine is worth its weight in gold, for its service in educating the people."—*The American Journal of Education*, St. Louis, Mo.

"This monthly enables us to utilize at least several years more of life than it would be possible were we obliged to wait its publication in book-form at the hands of some compiler."—*The Writing Teacher and Business Advertiser*, New York.

THE POPULAR SCIENCE MONTHLY is published in a large octavo, handsomely printed on clear type, and, when the subjects admit, fully illustrated. Each number contains 128 pages.

Terms: \$5 per Annum, or Fifty Cents per Number.

Postage free to all Subscribers in the United States, from January 1, 1875.

A new volume of the POPULAR SCIENCE begins with the numbers for May and November each year. Subscriptions may commence from any date. Back numbers supplied.

Now Ready, Vols. I., II., III., IV., and V., of *The Popular Science Monthly*, embracing the Numbers from 1 to 30 (May, 1872, to October, 1874). 5 vols., 8vo. Cloth, \$3.50 per vol. Half Morocco, \$6.50 per vol.

For Sale, Binding Cases for Vols. I., II., III., IV., and V., of *The Popular Science Monthly*. These covers are prepared expressly for binding the volumes of THE POPULAR SCIENCE MONTHLY as they appear, and will be sent to Subscribers on receipt of price. Any binder can attach the covers at a trifling expense. Price, 50 cents each.

D. APPLETON & CO., Publishers,

549 & 551 Broadway, New York.

THE
EXTENSION WINDLASS.

*READ BEFORE THE AMERICAN MEDICAL
ASSOCIATION, MAY, 1875.*

BY
CHARLES DENISON, M. D.
DENVER, COLORADO.

[REPRINTED FROM THE NEW YORK MEDICAL JOURNAL, MAY, 1875.]

NEW YORK:
D. APPLETON AND COMPANY,
549 & 551 BROADWAY.
1875.

THE EXTENSION WINDLASS.

THE extension windlass, which is now presented to the medical profession, was the principal part of an apparatus for treating fracture of the patella, invented by the writer in the spring of 1870. Since then, as opportunity offered, he has sought to simplify the instrument, and thus bring it into general use. Yet, though considerable thought and time in experimenting have been given to it, much improvement is undoubtedly possible through the suggestions and experiments of others.

The device is about the size of an ordinary watch, yet strong enough for the needs of any case, either the extension of joints or as an aid in the treatment of fractures.

It is various in its application, the form of splint or support being mostly left to the ingenuity of the surgeon.

In the treatment of fractures this method of extension (by a stationary winding-rod or windlass, with ratchet and pinion attachment) has a decided advantage over the ordinary method by pulley and weight, since the force of the former is governed by the requirements of the case, while that of the latter must vary somewhat in an inverse ratio to those requirements.¹

¹ In making extension we cannot expect the muscular power to be overcome and its relations to the various states of the nervous system to remain *constant*; and yet, with a weight of twenty pounds, a constant

The accompanying cut (Fig. 1) represents the size and form of the extension windlass. The support for the winding-rod is made of sheet-brass, and the rod of about one-quarter-inch brass wire.

FIG. 1.

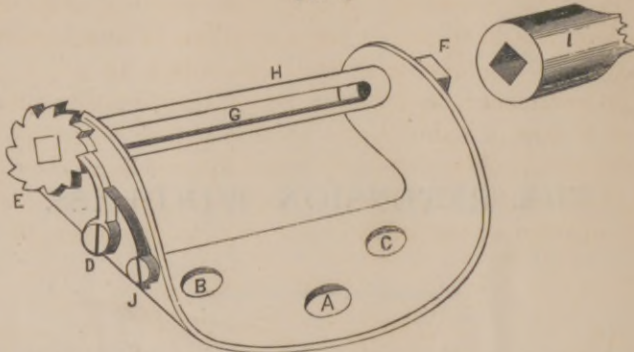


FIG. 1.—EXTENSION WINDLASS.—*A*, *B*, and *C*, holes for screws or tacks; *H*, winding-rod, slotted at *G*, squared at *F* for key *I*, and held in position by ratchet *E* and pinion *D*, with spring-attachment *J*. Length of the winding-rod, two and one-quarter inches; between the arms of the brackets, one and three-quarters inch.

This device is attached to wooden supports or splints, by screws, so as to be either *swivel* (self-adjusting by one screw) or *stationary* (by two or more screws), as the surgeon wishes.¹

force, it is sought to overcome another which naturally weakens. While so great a power may be necessary at first, still, as the opposing power lessens, its influence is really proportionately intensified. In this contest with a man's muscle and nervous system, a bag of sand has undue advantage. Then, too, there may be some uncertainty as to the amount of extension used by the pulley and weight. Some surgeons habitually weigh the sand or material used, instead of guessing at it, and then endeavor to regulate this weight as the case may require. Such are probably the exceptions. Now, if the maximum weight required (as Prof. Hamilton has found in making extension for fracture of the shaft of the femur) is twenty-two pounds, who can give us even an approximate rule for the weight necessary on successive days after the injury, as muscular contraction is gradually weakened, or that would be applicable to the great variety of cases occurring? The nearest to a correct guide would be *the length of the limb*; but this is just as reliable in extension by the windlass, which requires no more of muscles once relaxed, than to keep them under control.

¹ Or they can be fastened, if desired, by special screw and thumb-nut arrangement, to any part of a slotted adjustable metallic band, attached to the splint behind, and encircling the limb.

Fracture of the Patella.—Of several ways in which I have studied to apply this principle to the successful treatment of this fracture, the following is the simplest, and doubtless will most commend itself: A posterior splint is to be made of soft pine, to fit the convexity of the thigh and leg, with raised sides near the knee, which serve as points of attachment for the extension windlass, as shown in the following cut:¹

The treatment is as follows: Fan-shaped adhesive plasters are cut of strong material, the broad portions, when applied, covering the quadriceps femoris below the middle of the upper third of the thigh; the other smaller ends, cut long enough, can be doubled on the adhesive side so as to give strength, and

FIG. 2.

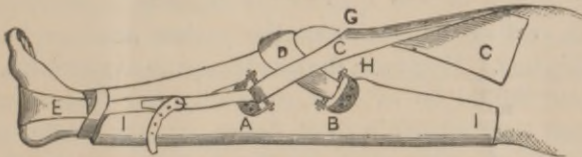


FIG. 2.—FRACTURE OF PATELLA.—*A A* and *B B*, extension and counter-extension windlasses, each fastened by one screw to wooden posterior splint; *C C*, fan-shaped adhesive plasters, crossing each other at *G*, and threaded through winding-rods *F F*; *D*, padded roller over ligamentum patellae, the ends of which are threaded through winding-rods *H H*; *E*, reserve counter-extension to relieve *D* from uncomfortable pressure in front of knee. *I I*, point at which splint is bandaged to the limb.

prevent that portion sticking. Taking the intended positions of the lower windlasses as starting-points, these adhesive straps are applied to the anterior convexity of the thigh (previously shaved) so as to cross each other above the upper fragment. The limb is snugly bandaged from the toes, the adhesive straps above the point of their intersection being under the bandage. The splint is now adjusted to the limb, and the counter-extension arranged. That in front of the knee may be made of a broad, soft pad, covered with chamois-skin, or simply of cotton rolled in a strip of cloth, the ends of which are to be threaded through the slots in the upper winding-rods. The ends of the reserve counter-exten-

¹ A carpenter will glue two or three pieces together to make a hollow splint, or it may be hollowed out of a two-and-a-half or three-inch plank. The windlasses on the opposite side of the limb, in the illustrations, are simply indicated by doubling the letters referring to those shown.

sion, around the foot (which may be used if the pressure of the pad in front of the knee is excessive), and the small ends of the fan-shaped adhesive plasters, already applied, are threaded through the slots in the lower winding-rods, when the requisite extension or counter-extension should be made to bring the fragments close together. At the same time, care should be taken to smooth the wrinkled integument underneath the dressing, so as to make the apparatus comfortable. If necessary, a bandage may be applied over the knee, with pad underneath to keep the fragments from tilting. By means of the fine-toothed ratchets desirable tension may be daily kept upon the adhesive straps or knee-pad, and thus the principle of the "figure-eight bandage" is constantly in effect while the muscular power of the quadriceps femoris is neutralized. With this method of treatment the patient need not be confined to his bed. However, the quadriceps is so powerful, that its exercise should be avoided, especially (for reasons which will suggest themselves) in short, fleshy persons. After union has taken place, and perhaps earlier in lean persons, the patient may attend to his vocation, if not requiring much exercise, always being careful during the first few weeks to lift the injured limb with his hand when he wishes to elevate it, as in putting his foot in a chair, or rising from a sitting posture.¹

This apparatus, rightly used, is capable of holding the fragments permanently in apposition, without undue constriction of the circulation. Plenty of room can be obtained

¹ It is important that an apparatus should be worn until after union has thoroughly taken place and become permanently established. Though opinions differ on this point, I believe this should be done even at the risk of some stiffness of the joint in consequence of this delay; and the first flexions of the knee should be made with caution. At the end of five weeks, if thought desirable, the posterior splint can be retained without the extension and counter-extension apparatus, and the patella confined in an elastic cap held down by a suitably-fitting ring. Later, too, the knee-cap can be continued, and, in place of the long posterior splint, a short, well-moulded posterior leather or gutta-percha splint may be substituted, the shape of which may be occasionally changed by soaking it in hot water, so as to allow of more and more motion in the joint. Passive flexion may be made once in a while, but complete flexion should not be allowed for several months.

underneath the extension-plasters, if needed, for leverage on the edges of the patella, by pads or other devices, and the force of the quadriceps is constantly overcome, unless the muscle is deeply buried in adipose or its great use excited. Without lengthening this article by a discussion of the causes of ligamentous union after this fracture, and of kindred subjects which would better show the utility of the extension-windlass, it is sufficient to state that a chief objection to most of the patella-splints yet devised is here obviated, in that the force to hold the fragments in apposition is not wholly expended on the tissues covering the bone. I think the use of this instrument will secure a greater success—more bony unions—in the treatment of this troublesome fracture than has usually hitherto obtained.¹

For rupture of the ligamentum patellæ, the two lower windlasses with the counter-extension around the foot would answer well.

For the treatment of fracture of the olecranon process of the ulna, the arrangement of the windlasses is very similar to that for fracture of the patella. The splint, however, should be lighter, well padded, fitting the anterior convexity of the arm; and the counter-extension be made by adhesive straps crossed below the joint, as are those for extension above the broken fragments.

For fracture of the tuberosity of the os calcis, or rupture

¹ The results of two cases which I have treated with my apparatus are suggestive: one, from *direct injury* and much laceration of surrounding tissues, resulted in bony union; the other, from *muscular contraction*, with apparently no laceration of adjacent tissues, in a very fleshy, short man, resulted in union by ligament about half an inch long. From these results it occurs to me much light would be thrown on this subject, of bony or ligamentous union, by a well-tabulated record of the *results* as influenced by the *causes* of this fracture. So much does this idea impress me, that, if I had another case of this fracture from muscular contraction, I should make an effort to increase the amount of reparative material furnished, by rubbing the fragments together with force so as to arouse some surrounding inflammation at the point of fracture. At any rate, it is generally well to obtain crepitation at first, lest any of the surrounding tissues be interposed between the fragments, and thus affect the union.

of the tendo-Achillis, the following use of the windlasses is recommended: A light posterior splint is to be made for the calf of the leg, cut away where the heel should come, with a foot-piece braced at an obtuse angle to the same. Fan-shaped adhesive plasters are to be applied over the gastrocnemius, crossing above the heel, underneath which, and above the upper fragments of the os calcis, pads may be inserted. Then the leg, bandaged, is put in the splint. The windlasses are fastened to the sides of the foot-board below the instep by one screw, so as to be swivel, and the small ends of the traction-plasters threaded through the winding-rods, when the desired force may be brought to bear to control the troublesome muscle and hold the fragment of the os calcis down in place.

FIG. 3.

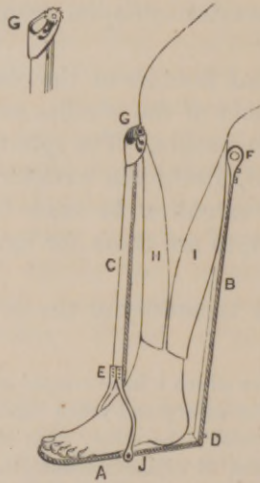


FIG. 3.—EXTENSION OF THE ANKLE-JOINT.—A, wooden foot-piece, about one-third inch thick, to which, at *D* and *JJ*, the supports *OB*, of the extension-windlasses, *GF*, are fastened. *HI*, fan-shaped adhesive plasters in position. Braces to go over instep (after Dr. L. A. Sayre's apparatus) are fastened to slat *C*, at *E*. The windlasses, *GF*, are reversed and made stationary on the upper ends of the thin slats, so as to draw the adhesive plasters close to the limb, and over the winding-rods.

For making extension of the ankle-joint the following combination of foot-board, thin splints, and two extension-windlasses, is recommended. The wood part may be made light, so as not to be cumbersome.

The foot is secured to the foot-piece by several adhesive

strips, and then bandaged. The supports of the windlasses are afterward tightly screwed to the foot-piece at the heel, and below the instep, and the fan-shaped adhesive plasters properly secured to the leg, when the traction on these produces the required extension in the joint below.

This cut may be made to explain the use of the windlasses for extension of the knee and hip joints. The extension of the knee-joint is quite simple and effective. Two thin slats, similar to those in the cut, are to be used as side-splints, on the ends of which the extension-windlasses are reversed and made stationary. These supports are long enough to reach from the upper third of the thigh nearly to the ankle, the one on the inside being the shorter of the two. From one to three fan-shaped adhesive plasters are bandaged to the sides of the limb, above and below, the small ends of which converge toward the windlasses, and thus the traction of those above the knee is opposed to that of those below.

For extension of the hip-joint the perineal band may be used, with a long, light side-splint, on the lower end of which the extension-windlass is reversed and made stationary. The fan-shaped adhesive strips are applied to the outside and back of the calf of the leg, converging toward the winding-rod. In muscular adults it might be best to use also another extension-windlass, supported on the inside of the leg by a brace coming from the outside long splint.

Extension of the hip-joint could also be made by embedding the lower end of a long side-splint in a plaster-of-Paris bandage on the foot and leg (or by fastening the lower end of the splint by a brace, at right angles to it, to the sole of a shoe); while, on the upper end, above the crest of the ilium, two extension-windlasses might be made swivel, each pulling on a separate end of the perineal band. It will be apparent that several methods of dressing fractures of the femur might be combined with these methods of hip-joint extension.

But, for non-union after fracture of the shaft of the femur, I have devised the following dressing:

The thigh, being well protected by thick flannel or blanket-ing, is enveloped in a firm though not too tightly-fitting plas-

ter-of-Paris bandage, from the knee to past the gluteal fold. In this dressing, on the inside and outside aspect of the limb, are embedded the roughened ends of two thin side-splints, about two inches wide, and reaching to the ankle, on the lower ends of which the extension-windlasses are fastened as in extension of the knee-joint. The upward pressure of this dressing is prevented from causing excoriations by a roll of cotton, wrapped in oiled-silk, placed in the groin. This pad and the swell of the hip give counter-extension, while extension, sufficient to keep the limb of the same length as its fellow, is produced by the windlasses. The above treatment proved quite effective in a case of non-union which came under my care, and I think would be a satisfactory dressing for oblique fracture of the shaft of the femur, especially where long confinement in bed is sought to be avoided.

For both extra- and intra-capsular fracture of the cervix femoris a modification of this dressing also seems an excellent one, though as yet I have had no opportunity for testing its efficacy: First, bandage the thigh over the gluteal muscles and over the waist, placing underneath it, in the groin and gluteal fold, cotton rolled in oiled-silk, and suitable pads to protect any part from uncomfortable pressure. Then apply the plaster-of-Paris bandage, with splints embedded in it as shown above, except that the thigh and waist are to be included, the main strength of the dressing being on the outside of the hip. Afterward, should the dressing press uncomfortably in the groin, it could be cut away, and suitable pads introduced; but this would be avoided, in a measure, by trusting chiefly to the outside windlass for extension. By this method, the patient could be upon crutches, if desirable, and, at the same time the needed extension be continued.

For impacted fracture in the region of the ankle-joint, or oblique fracture of the tibia, the use of the windlasses for extension of the ankle-joint (Fig. 3) will suggest the peculiar way in which they might be fastened to the upper edges of the sides of a fracture-box, so that, when these sides are closed, the small, free ends of plasters, previously bandaged to the sides of the limb, can be threaded through the winding-rods,

and the desired extension produced, the foot, of course, being bandaged to the foot-board.

When the windlasses are used with the fracture-box, their position, as to the thigh, may be easily varied by first fastening them, reversed, as explained above, on the ends of thin slats, which may be screwed on to the sides of the fracture-box, so as to extend to any part of the thigh desired.

In this way I have easily kept up extension for four weeks, in a patient under treatment, at present writing, for compound comminuted fracture of the leg, with a loss of pieces of the tibia, weighing half an ounce.

In a similar way the windlasses might be reversed, and made stationary on little braces fastened to the sides of an ordinary posterior-splint with a foot-board to which the foot is secured. Or the leg, to the knee, might be put in a plaster-bandage, in which thin side-pieces are embedded, which reach to the upper third of the thigh. On the upper ends of these the windlasses are turned over, and made stationary, so as to make traction on fan-shaped adhesive plasters, bandaged to the sides of the thigh.

Two or three of the last uses of this instrument are rather suggestions than the results of actual trial. Enough has been written, however, to show that this extension-windlass can be of great service to the skillful surgeon, especially in a country-practice, and among those who are not able to purchase expensive apparatuses. The windlasses are manufactured by Messrs. Codman & Shurtleff, of Boston.

MEDICAL WORKS

PUBLISHED BY D. APPLETON & CO.

- Anstie on Neuralgia.* 1 vol., 12mo. Cloth, \$2.50.
Bartholow's Treatise on Therapeutics. (In press.)
Barker on Puerperal Diseases. 1 vol. Cloth, \$5.00.
Barker on Sea-Sickness. 1 vol., 16mo. Cloth, 75 cents.
Barnes's Obstetric Operations. 1 vol., 8vo. Cloth, \$4.50.
Belleve and Charity Hospital Reports. 1 vol., 8vo. Cloth, \$4.00.
Bennet's Winter and Spring on the Mediterranean. 1 vol., 12mo. Cloth, \$3.50.
Bennet on the Treatment of Pulmonary Consumption. 1 vol., 8vo. Cloth, \$1.50.
Billroth's General Surgical Pathology and Therapeutics. 1 vol., 8vo. Cloth, \$5.00; Sheep, \$6.00.
Bastian on the Common Forms of Paralysis from Brain Disease. (In press.)
Bulkeley's (L. D.) Acne; its Pathology, etc.
Combe on the Management of Infancy. 1 vol., 12mo. Cloth, \$1.50.
Carpenter's Mental Physiology. \$3.00.
Chauveau's Comparative Anatomy of the Domesticated Animals. Edited by George Fleming, F. R. G. S., M. A. I. 1 vol., 8vo, with 450 Illustrations. Cloth, \$6.00.
Davis's (Henry G.) Conservative Surgery. Cloth, \$3.00.
Dickson on Medicine in Relation to the Mind. Cloth, \$3.50.
Elliot's Obstetric Clinic. 1 vol., 8vo. Cloth, \$4.50.
Ecker's Convolutions of the Brain. Price, \$1.25.
Flint's Physiology. 5 vols. 8vo. Cloth, per vol., \$4.50; Sheep, \$6.
Flint's Manual on Urine. 1 vol., 12mo. Cloth, \$1.00.
Flint's Relations of Urea to Exercise. 1 vol., 8vo. Cloth, \$2.00.
Frey's Histology and Histo-Chemistry of Man. Cloth, \$5.00.
Hoffmann's Manual of Medicinal Chemicals. Cloth, \$3.00.
Hammond's Diseases of the Nervous System. 1 vol., 8vo. Cloth, \$5.00.
Hammond's Physics and Physiology of Spiritualism. 1 vol., 12mo. Cloth, \$1.
Holland's (Sir Henry) Recollections of Past Life. 1 vol., 12mo. Cloth, \$2.00.
Howe on Emergencies. 1 vol., 8vo. Cloth, \$3.00.
Howe on the Breath, and the Diseases which give it a Fetid Odor. Cloth, price \$1.
Huxley on the Anatomy of Vertebrated Animals. 1 vol. Cloth, \$2.50.
Huxley and Youmans's Physiology and Hygiene. 1 vol., 12mo. Cloth, \$1.75.
Hammond's Insanity in its Relations to Crime. 1 vol., 8vo. Cloth, \$1.00.
Hammond's Clinical Lectures on Diseases of the Nervous System.
Hamilton's (A. McL.) Electro-Therapeutics. 1 vol., 8vo. cloth, \$2.00.
Johnston's Chemistry of Common Life. 2 vols., 12mo. Cloth, \$3.00.
Letterman's Recollections of the Army of the Potomac. 1 vol., 8vo. Cloth, \$1.
Lewes's Physiology of Common Life. 2 vols., 12mo. Cloth, \$3.00.
Markoe on Diseases of the Bones. 1 vol., 8vo. Cloth, \$4.50.
Maudsley on the Mind. 1 vol., 8vo. Cloth, \$3.50.
Maudsley's Body and Mind. 1 vol., 12mo. Cloth, \$1.00.
Maudsley on Responsibility in Mental Disease.
Meyer's Electricity. 1 vol., 8vo. Cloth, \$4.50.
Niemeyer's Practical Medicine. 2 vols., 8vo. Cloth, \$9.00; Sheep, \$11.00.
Nefel on Galvano-Therapeutics. 1 vol., 12mo. Cloth, \$1.50.
Nightingale's Notes on Nursing. 1 vol., 12mo. Cloth, 75 cents.
Neumann on Skin Diseases. 1 vol., 8vo. Cloth, \$4.00.
New York Medical Journal. \$4.00 per annum. Specimen copies, 25 cents.
Peaslee on Ovarian Tumors. 1 vol., 8vo. Cloth, \$5.00.
Pereira's Materia Medica and Therapeutics. 1 vol., 8vo. Cloth, \$7; Sheep, \$3.
Sayre's Club-foot. 1 vol., 12mo. Cloth, \$1.00.
Schroeder on Obstetrics. 1 vol., 8vo. Cloth, \$3.50.
Steiner's Compendium of Children's Diseases. Cloth, Price, \$3.50.
Stroud's Physical Cause of the Death of Christ. 1 vol., 12mo. \$2.00.
Swett on Diseases of the Chest. 1 vol., 8vo. Cloth, \$3.50.
Simpson's (Sir Jas. Y.) Complete Works. Vol. I. Obstetrics and Gynecology. 8vo. Vol. II. Anesthesia, Hospitalism, etc. 8vo. Vol. III. The Diseases of Women. Per vol., Cloth, \$3.00; Sheep, \$4.00.
Tilt's Uterine Therapeutics. 1 vol., 8vo. Cloth, \$3.50.
Van Buren on Diseases of the Rectum. 1 vol., 12mo. \$1.50.
Van Buren and Keyes's Genito-Urinary Diseases, with Syphilis. Cloth, \$5; sheep, \$6.00.
Vogel's Diseases of Children. 1 vol., 8vo. Cloth, \$4.50; Sheep, \$5.50.
Wells on Diseases of the Ovaries. 1 vol., 8vo. Cloth, \$5.00.
Wagner's Chemical Technology. 1 vol., 8vo. \$5.00.
Wallon's Mineral Springs of the United States and Canada. With Analyses and Notes on the prominent Spas of Europe. Cloth, price, \$2.00.
- * * Any of these works will be mailed, post-free, to any part of the United States, on receipt of the price. Descriptive Catalogue forwarded on application.
A large and carefully-selected stock of Medical Works, American and Foreign, constantly on hand.
Special Terms given on large orders.
Physicians are invited to send their names and addresses.

D. APPLETON & CO., Publishers,

549 & 551 Broadway, New York.

APPLETONS' JOURNAL,

FOR 1875.

APPLETONS' JOURNAL will sustain, during the ensuing year, its reputation for general excellence. The publishers will endeavor, more strenuously than ever, to furnish a periodical of a high class, one which shall embrace a wide scope of topics, and afford the reader, in addition to an abundance of entertaining popular literature, a thorough survey of the progress of thought, the advance of the arts, and the doings in all branches of intellectual effort. As the design is to make a superior literary journal, engravings will be employed only when they serve to illustrate the text, and never merely as pictures.

Without adhering too rigidly to any set plan, the contents will be grouped approximately as follows:

- I. LITERATURE OF ROMANCE, consisting of popular serial novels, from both American and English writers, and the best short stories obtainable, whether from native or foreign writers.
- II. TRAVEL, ADVENTURE, AND DISCOVERY, embracing papers descriptive of places, tales of adventure and discovery, with notes of all that is doing in the way of exploration, or that is brought to light of new and unfamiliar countries.
- III. NATURE AND NATURAL HISTORY, under which will be given entertaining papers on the characteristics of the earth's surface, the habits of animals, and all that pertains to the physical world around us.
- IV. SOCIAL THEMES, including papers expressing the ideas of capable observers on social progress, the arts and felicities of the household, and such matters as pertain to our daily lives.
- V. THE ARTS, embracing criticisms of new paintings, new architecture, etc.; observations on decorative and household art, and a general survey of the progress of the arts in all their branches.
- VI. MISCELLANY will cover selections from new books, brief translations from Continental journals, and extracts giving the core of the more noteworthy papers in the English magazines.
- VII. SCIENCE AND INVENTION will consist of popular papers on subjects covered by these terms, and will record the progress made therein.
- VIII. NEW BOOKS will be carefully and impartially reviewed, in the sole interest of the reader; and notes will be subjoined, affording intelligence in regard to literary matters here and abroad.
- IX. CURRENT TOPICS will consist of the editor's glances at themes occupying the public mind; at various utterances by leading spirits in literature, philosophy, and criticism; and at the gayeties and amusements of society. It is designed to make this department notable for its entertaining vivacity.

The broad purpose of the editors will be to make a *magazine of weekly issue*, that shall rival in interest and variety the regular monthly publications; and for this purpose the space at their command enables them to give much more material for the same yearly subscription than that contained in the largest of the monthly magazines.

Published Weekly. Price 10 Cents per Number; or \$4 per Annum, in advance.

By the recent Post-Office Law, the postage on all periodicals, after January 1, 1875, must be prepaid by the publishers. Subscribers, therefore, will hereafter receive their numbers without charges for postage.

Any person procuring Five Yearly Subscriptions, for weekly numbers, and remitting \$20.00, will be entitled to a copy for one year *gratis*.

In remitting by mail, a post-office order or draft, payable to the order of D. APPLETON & Co., is preferable to bank-notes, as, if lost, the order or draft can be recovered without loss to the sender.

Volumes begin with January and July of each year.

APPLETONS' JOURNAL and either *Harper's Weekly*, *Harper's Bazar*, *Harper's Magazine*, *Lippincott's Magazine*, the *Atlantic Monthly*, *Scribner's Monthly*, or the *Galaxy*, for one year, on receipt of \$7.50, which includes prepayment of postage; APPLETONS' JOURNAL and *Littell's Living Age*, for \$10.50, including postage; the JOURNAL and POPULAR SCIENCE MONTHLY, for \$8, including postage prepaid by the publishers.

For those who prefer it, the JOURNAL is put up in MONTHLY PARTS, and in this form its scope and variety, as compared with other magazines, become conspicuously apparent. Subscription price, \$.53 per annum, including postage prepaid by the publishers.

D. APPLETON & CO., Publishers, New York.