

**THE PHYSIOLOGICAL INFLUENCE OF BAROMETRIC PRESSURE.**

M. Paul Bert, in the course of his investigation into the physiological effect of changes of atmospheric pressure, has conclusively disproved the popular idea that the deleterious influence of a rarefied atmosphere upon living creatures is due to a mechanical removal of pressure. It has been stated, for example, that blood has gushed from the eyes and nostrils of persons who had attained the summit of very lofty mountains, that aeronauts' heads have been known to swell so that their hats no longer fitted them, and various other doubtful assertions have been made, all finding their justification in this popular notion. M. Bert has proved that such ill effects as are experienced are due not to diminution of pressure, but to diminution of tension of the oxygen, which no longer penetrates to the blood and tissues in sufficient quantity to maintain the vital combustions at their normal degree of energy. In order, therefore, to combat the illness produced by high elevations, it suffices to augment the percentage of oxygen in the air breathed in proportion as the pressure diminishes. M. Bert demonstrates this fact by such simple apparatus as is represented in Fig. 2. A bird is placed under the receiver of an air pump, and the rarefied air, which at first produces symptoms of impending death, is rendered harmless by the addition of oxygen. A is the receiver, a' the barometer, and O a bag of oxygen.

M. Bert has not hesitated to subject himself to similar conditions, and thus to demonstrate beyond question the truth of his theory. The disposition of his apparatus is shown in Fig. 1. The experimenter seats himself in a strong metal box, whence air is exhausted by a powerful air pump. In another receptacle is his bag of oxygen, the tube from which is led to his mouth, and the supply of gas can be regulated at pleasure. The air pressure was gradually decreased until the barometer showed a degree of rarefaction equivalent to that existing at the summit of Mont Blanc. M. Bert's pulse had gradually augmented to 84, when a few respirations of oxygen reduced it to 78, and subsequently to 70. The effect of the oxygen was manifested immediately, and the pulse fell exactly to the normal beat observed before the experiment began.

**Female Physicians.**

The convocation of the University of London has by a large majority agreed to accept what is called the Supplemental Charter, the effect of which will be to admit women to degrees in all the faculties, on the same conditions as men.

This was done in the very teeth of the Medical Faculty, who in May last declared in the most unmistakable manner their strong protest and decision against the admission of women to medical degrees.

The individual expression of opinion from the leading members of the medical profession in England shows how repugnant this step is to their judgment of the case; how far prejudice may have influenced their course can never be proved, but the high reputation of those who publicly recorded their protest will doubtless be accepted as a guarantee that they conscientiously decided, after due deliberation, that the course they adopted was wise, and for the best interests of the female sex.

Sir William Gull, it appears, considers it the least desirable of all things that women should be encouraged to practice medicine.

Professor Lester claimed that in such a case the Medical Faculty itself should decide the question.

Sir James Paget declared that it would be a scandal and a disgrace to examine women for medical degrees as men are now examined for them.

Sir William Jenner was strongly opposed to the innovation, and condemned the advocates of the women's party, or rather that advanced section of men who wish to thrust women into a false position. Sir William said that he had but one daughter, and he would prefer to see her upon the benches of the dissecting room rather than for her to pursue the course of study necessary to entitle her to take a medical degree.

Probably stronger words could not have been uttered to influence the members of the convocation, but the result of a division showed that there were present a majority who took an equally decided view of the other aspect of the question. The record shows that the ayes were 242 and the nays 132; thus by the large majority of 110 the women were victorious.

As the University of Paris has already permitted women to take degrees, the matter now stands that France and England have decided upon the propriety of educating women for the medical profession, and it appears advisable, now that the question has reached such a state, to consider the consequence, and if possible decide upon a given status for the female physician, so that she may have a defined sphere of usefulness, for which she is eminently qualified and which she can undertake with credit.

Medical men have long recognized a difficulty in the treatment of the large class of complaints usually classed under the term "diseases of women," especially in cases of growing up female children and girls of a certain age.

The full force of our meaning can be realized by a remark

made last week by Dr. William T. Lusk, in the course of a lecture at Bellevue Hospital on the diseases of women and children. In reference to certain abnormal complications to which females are subject, he instructed his pupils that, in the case of children and girls of twelve years, it was their duty to ignore the presence of the complaint and let it pass on, rather than by treatment subject the young patient to an examination, the moral effect of which would generate a train of evils of greater magnitude than the disease itself.

This expression of opinion of Dr. Lusk was worthy to be recorded, for it did honor to himself and his profession, at once proving the perfect delicacy and honor with which medical men perform their arduous duties, and how worthy they are of the sacred trust too often forced upon them.

Here, then, appears a sphere in which women may with

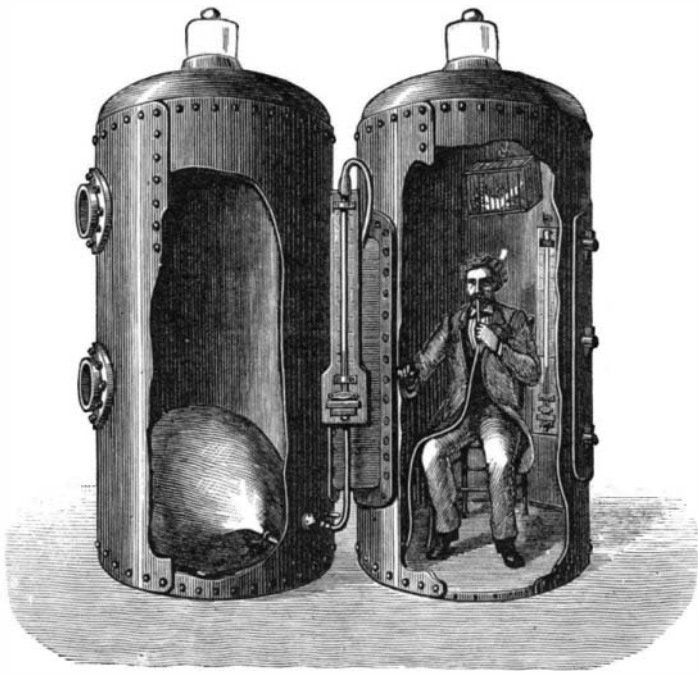


Fig. 1.—MAN SUBJECTED TO RAREFIED AIR.

honor to themselves labor in the cure and relief of bodily infirmities, requiring all the skill and knowledge they can acquire. If women will be physicians, let them devote their energies to the "diseases of women and children," which have been of late years alarmingly on the increase. The medical profession would certainly not grudge to women such a share in their practice, and would probably invite their co-operation, because it would be often beneficial to the patient and insure good results.

Let the "woman," therefore, undertake this honorable rôle, so suitable to her nature and fully within the compass of her powers; she will then avoid all the degradations that will fall to her lot in a general practice, which by necessity must at every step place her in a false position.

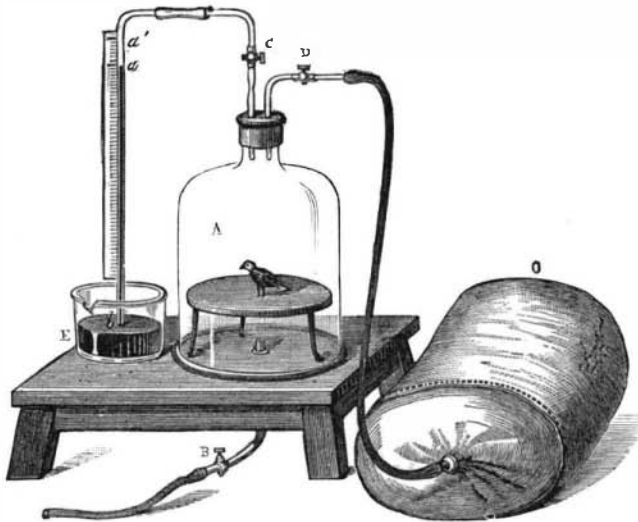


Fig. 2. BIRD SUBJECTED TO RAREFIED AIR.

Medical men have little to fear from the invasion of women upon the practice of medicine; doubtless a large class even of women will still rely upon their services and consult them on most cases.

Men will naturally always take the lead in the medical profession, especially in surgical practice, and if the hour has arrived when the co-operation of female physicians is inevitable, the most prudent course is to take such steps that the education of medical students shall be conducted in such a manner that a mixed class of both sexes shall be unnecessary, and that the studies be arranged to avoid scandal.

In conclusion, we shall be glad to see the female medical practitioner, on the basis here indicated, fairly and well established, as we shall then hope to see the rout of the army of female vampires who are now distributed in every city of the Union, who, under the guise of physicians, clairvoyants, etc., are living on the credulity of the public, a disgrace to their sex and the profession they vainly counterfeit.

SOAP, regarded chemically, is a true salt.

**Helminthology for the Year 1877.**

Important additions have been made during the past year to our knowledge of this science, and the necessity for more extended investigations is evident. An epidemic of diarrhea was traced to the presence of two nematode worms (*Anguillula stercoralis* and *A. intestinalis*), and the fact that mosquitoes and cyclops have been proved to be the intermediary host of some of the worst sort of entozoa that attack the human system should lend additional force to the timely warning of the helminthologist.

Dr. Cobbold well remarks as a practical comment that, "if physicians will only reflect to what extent diseases hitherto obscure are to be associated with the bite of a gnat, they will perhaps be not less ready than hitherto to extend a helping hand to those who at great sacrifice labor in the field of helminthology."

In Italy good work has also been accomplished, and the great tenacity of life of the insects giving rise to the pork and beef measles has been demonstrated, Dr. Payne and several students having courageously submitted themselves to experiment, and infecting themselves with *Tenia medio-canellata*.

A novelty appears in the production of a work on medicine, written in English by a native Hindoo. It is entitled "Recognizant Medicine, or the State of the Sick," by G. Bholanath Bose, M.D. Mr. Bose's book is intended to introduce a new system, and is an earnest plea for a more accurate and extended clinical investigation of disease. He maintains that the treatment of disease is taught far too much by rote, and that a name is given for a set of symptoms, and the student is directed to seek for these, when the more important ones may be absent or concealed. Mr. Bose thinks "the state of the sick" should be more thoroughly investigated. The *Lancet* agrees in all this, but believes it is what every intelligent hospital physician is at present inculcating to his students.

**Manufacture of Aluminum.**

In the most unique factory for the production of aluminum metal, in Salindres, near Alais, the mineral Bauxite is heated with soda in a reverberatory furnace, the resulting aluminate of soda is extracted by means of water, and alumina precipitated by a stream of carbonic acid; this is then formed into balls, with salt and coal, and heated to a white heat in vertical retorts during the introduction of chlorine gas. The double chloride of soda and alumina, which distills over, is fused with the addition of 35 per cent of sodium and 40 per cent of cryolite as a flux, and the metal which settles at the bottom of the crucible is poured into moulds. The cost of producing one keg of aluminum is stated to be 80f., while the selling price is 100f.

**A Chemical Prophecy.**

Long ago, almost before any one had any definite idea that the liquefaction of oxygen would be actually accomplished, and while many denied the possibility of such a result, M. Dumas, the famous French chemist, on theoretical grounds alone announced the density of liquid oxygen. He reasoned in this wise: Sulphur and oxygen are evidently of the same family. Now, the equivalent of sulphur is 32, and its density is represented by 2. Dividing the first by the second gives 16, which is the atomic volume. Reciprocally knowing the atomic volume and the equivalent, it is easy to determine the density. In the same family of elements it is probable that the atomic volumes are the same. Hence this volume for oxygen as for sulphur must be 16, and this divided by the equivalent for oxygen, or 16, must give the density as a quotient equal to 1, or to the same as that of water.

As soon as M. Pictet had announced his recent magnificent experiment on the liquefaction of oxygen, M. Dumas called his attention to the above and requested him to verify M. Pictet's reply that he had obtained just 43.5 grammes of oxygen in liquid state, and that it occupied just 46 cubic centimeters. As the gramme is the weight of one cubic centimeter of water, a more complete verification of M. Dumas's prediction could hardly occur.

**A Proposed Liberian Railway.**

Congress has been asked for an appropriation of \$50,000 to make a preliminary survey from Liberia one or two thousand miles into Central Africa, and to report upon the country, its population, productions, and the practicability of the road. Should the report of the survey be favorable, a company is to be formed to build the road, who are to commence by putting on a line of twenty steamers from Philadelphia or New York to Liberia, which are to carry out railroad material, goods suited to the African trade, and to call at Norfolk and Charleston for colored railroad laborers and colonists, and bring return cargoes of palm oil, coffee, sugar, ivory, gold, and other African products, the trade in which, it is believed, will be vastly increased as it reaches the interior.

ERRATUM.—The date of the Sikes portable cider mill patent, described in our issue of Feb. 9, should read Nov. 6, 1877.

## New Inventions.

A Safety Bridle Attachment, based on the principle of preventing the horse from breathing during the time it is applied, and of quickly removing it so as to relieve the horse when it is no longer needed, has been invented by Mr. Thos. P. Clines, of Louisville, Ky. This device has pads connected laterally by a spring band hung by suitable straps to the head gear of the bridle, and applied or released by means of suitable cross straps or reins.

A new form of Stamped Envelope has been devised by Mr. Joseph Clowes, of Bedford, Pa., the object of which is to provide against the accidental falling off of postage stamps and at the same time enable their being detached by the postmaster, to serve as vouchers. The stamp is in one piece with the envelope, in such a manner that the larger portion is left free and the remainder connected to the flap directly or by a neck, so that it can be removed without injuring the envelope.

Mr. Augustus Hoff, of Brooklyn, N. Y., has designed a Saddle Bag for Physicians which, when opened, gives convenient access to the medicine vials, and protects them from being wet when closed. There is, in connection with a pivoted vial box, a sundry box above it, having an inwardly curved or concave bottom, thus making a compact receptacle. Outside flaps protect the boxes.

M. Franz Dietrich, of Murten, Switzerland, has devised an improved process of treating argols and other residues of wine making for the production of tartaric acid and its salts. The novelty of the process is in the preliminary step, which consists in exposing the wine residues, in a dry state, to a temperature of 140° to 170° C.

An Advertising Lantern, of polygonal shape, with detachable panels, is the invention of Mr. Henry Sylvester, of New York city. The lantern is revolved by clockwork upon a hollow shaft, which also serves as a gas pipe, so that the several sides of the lantern are exposed successively to view.

Messrs. Edgar G. Frisbie and Charles H. Johnson, of Monroe, Mich., have patented a combined Bag Holder and Truck, the object being to furnish a device for holding the bag while being filled, which may also be used as a truck for carrying the bag from place to place.

Mr. Thomas F. Witherbee, of Port Henry, N. Y., has invented an improved Tweezer and Blast Nozzle, which consists of the combination, with a tweezer having a socket with a spherical joint and a blast pipe, of a short nose piece having a socket or a spherical point for the blast pipe, and used for lengthening the blast pipe or changing the size of the nozzle without sacrificing the main part of the blast pipe. The nose piece is termed by the inventor a "reducing nozzle," and its orifice toward the tweezer is smaller than the internal diameter of the latter, thus concentrating the blast for starting the furnace, after which it may be removed.

An improved Window Awning has been invented by Mr. James Cain, of Pittsburg, Pa., which may readily be attached to and detached from the window, and when detached may be folded into a compact form for storage or transportation. The principle is somewhat like that of an umbrella. A horizontal rod carries two sliding runners, the outer one of which is attached to the ribs, and the inner one to stretchers. The outward motion of the inner runner is limited by fixed and locking pins which correspond to the upper catch of an umbrella.

Mr. S. H. Bradford, of New York city, having in view the numerous accidents arising from the careless use of kerosene for lighting fires, has contrived a combined Kindling-wood Receptacle and Oil Can. The can is divided into two compartments by a perforated draining disk. The kindling wood being placed in the upper end, the can is closed and reversed, the wood thus being saturated with oil. When this is accomplished the can is turned back and the fluid drained from the wood. By suitable arrangements the oil is kept from dripping and the wood kept in position.

A Feather Renovator, or apparatus for steaming and then drying feathers, so as to cleanse and renovate them, has been invented by Messrs. G. B. Griswold and J. C. Gipson, of Felt's Mills, N. Y. It consists of a revolving cylinder with inclosing jacket, arranged in connection with a radial steam pipe and valves, so that the steam may be first admitted into the cylinder for steaming and then into the jacket for drying.

An improved Pottery Kiln is the invention of Messrs. Isaac and Griggs Marsh, of Milton, Pa. The kiln has furnaces at the sides, and is provided with flues for conveying the products of combustion to the top of the kiln, while a central chimney, with a downward draft, opens into the lower part of the kiln, to more perfectly bake the wares contained in it.

Messrs. R. G. and C. G. Lindsay, of Hollidaysburg, Pa., propose a new mode of Constructing Buildings, intended to combine the qualities of non-conductivity of heat, absence of condensation of moisture on the inner wall, and economy of construction. A wooden frame is sheathed and connected with an outer brick wall or casing by metal ties, leaving a dead air space between.

An improved Folding Bracket Chair for use in public places has been invented by Mr. Walter A. Brewster, of Woodbury, N. J. The seat is carried on a swinging bracket, and when not in use the back and seat fold down upon the bracket, and the whole is swung back out of the way. By a single motion of the hand the seat may be adjusted or folded.

Mr. Joseph R. Payson, of Chicago, Ill., has invented a Joist Shoe for supporting the ends of flue joists in the breasts

of chimneys, so constructed that the ends of the joists are not exposed to fire by entering the wall, and that the use of trimmers and headers may be dispensed with. The shoe is a casting having two flanges at right angles to each other, with a web extending diagonally across the upright flange and at right angles across the bed flange. Thus the shoe is divided in two parts, one of which is built into the wall, while the other receives the end of the joist, which is secured by screws or spikes driven through holes in the flanges and set at suitable points.

A Service Valve for Waterpipes, especially when exposed to freezing, by which the water may be drained off as soon as the supply valve is closed and the escape instantly shut off when the valve is opened, has been patented by Mr. Paul Magnus, of New York city. A screw spindle operates a fixed supply valve and a sliding drain valve simultaneously.

An Improved Process of Tanning Leather has been invented by Mr. George Goodwin, of Cookshire, Canada, and is designed to make waterproof leather for boots, gloves, harness, etc. The tanning bath consists of sulphuric acid, alum, japonica, salt, and water or bark liquor, used in proportions prescribed.

A new invention by Mr. Wm. Riker, of Newark, N. J., relates to an improved Method of Inlaying Gold, Silver, Platinum (or other suitable metal) in Gold or Silver. The method consists in cutting the forms which constitute the emblems or configuration from a bi-metallic plate, or a plate having upon one side the color of metal which gives distinctiveness, and upon the other a metal of the same quality and color as the back of the main portion of the piece of ware to be inlaid, so that when the emblems are inserted and soldered into the apertures cut through the body piece said emblems appear upon the face in different colors, while the backs of each being of the same color and quality of metal as the back of the main body, the reverse side of the emblems is not distinguishable.

Herr Albert Lüttges, of Solingen, Prussia, has invented a new Apparatus for Hardening and Tempering Sheet Steel, the purposes of which are: first, conducting the sheet steel through a heating oven; then hardening it between cooling vessels, which are pressed upon it with more or less power; and, finally, tempering the steel by passing it between the bridge of a box heated by charcoal or otherwise, and a block pressing upon the latter.

Mr. G. A. Wells, of Hopkinsville, Ky., has patented an Ink for use upon State and Government records and documents, also in banking and other kinds of business generally—a writing fluid or ink which is indelible and will therefore afford the desired protection against loss either by forging or the effect of moisture. The ink is composed of water, borax, shellac, lampblack, and camphor. It is very dark, flows freely from the pen, will resist water, and is ineffaceable by chemical agents.

Mr. W. E. Buser, of Chillicothe, Ohio, has devised an Attachment for Bureau Washstands, and other analogous articles of furniture, which consists, first, of a detachable frame adapted to be secured to the back of the washstands, and provided with projecting arms for supporting towels or other articles of toilet, etc.; and second, of a splasher, formed of a piece of any suitable fabric, which is attached to the back of said frame by means of studs or buttons, so that it may be readily removed when soiled.

Mr. Luther J. Adams, of East Templeton, Mass., has invented a combined Cradle and Crib, which may be rocked with facility when used as a cradle and easily secured in rigid position for a crib by pivoted locking pieces.

## Microscopical Notes.

ROYAL MICROSCOPICAL SOCIETY, January 2, 1878.—Dr. Bartlett read a paper "On the detection of toxic matter connected with typhoid and other enteric diseases." In the course of reading this paper he gave an account of his attempt to trace to its ultimate source the cause of a recent outbreak of typhus fever, and showed that while chemical analysis had failed to discover any impurity either in the water or milk, he had been able by means of microscopical examination to detect certain bodies, presumably of fungoid character, which were identical with those found in the bowels of persons who had succumbed to the disease.

A SECTION OF A BONE of the *Megalosaurus bucklandii* was exhibited by Mr. Flack, and its remarkable resemblance to the structure now identified as peculiar to birds was pointed out by Mr. C. Stewart.

FUNGI.—Mr. W. G. Smith recently showed before the Linnæan Society some drawings of the fungus *Boletus submentosus*, to demonstrate that in a specimen 5 inches in diameter there were 17,000 pores or tubes. Each pore when cut across showed 2,000 cells. The number of surface cells on the under side of a specimen is 36,000,000. The cells in an entire plant are calculated to number 615,000,000,000, and the number of spores produced by the same plant to be 5,000,000,000.

ALGÆ AND DIATOMACEÆ.—Professor Dickie, in a paper read before the same society, stated that in the collection made by the last Arctic expedition there were representatives of fourteen genera of Algæ, many of which were common in Europe. Of Diatomaceæ, 31 genera and 70 species had been identified, most of which were marine.

QUEKETT MICROSCOPICAL SOCIETY, December, 1877.—Mr. Cattam drew attention to the new autographic process, in which he pointed out its difference to ordinary lithography, and indicated its superiority to the latter process as

a means of illustrating the finer details of microscopic drawings.

MOSQUITOES.—Dr. Spencer Cobbold announces a discovery in Helminthology which has very important relation to the origin of many obscure diseases.

Mr. Bancroft wrote from Brisbane, Australia, in April, 1877, and incidentally remarked:

"I wonder if mosquitoes could suck up the hæmatozoa and convey them to water. They appear to die in water. I will examine some mosquitoes that have bitten a patient, to see if they can suck up the 'Filaria.'"

It appears that what Bancroft surmised Dr. Manson demonstrated to be a fact.

On November 27, 1877, Dr. Manson wrote from Amory to Dr. Spencer Cobbold, when he announced the discovery in the stomachs of the mosquitoes, which had fed on hæmatozoal patients, and he sent a voluminous manuscript in which he not only described the developmental changes which the parasite undergoes during its residence in the stomach of the insect, but he also supplements the 15 cases of human hæmatozoa by giving details of no less than 35 additional cases, and a mass of valuable statistics in relation to the prevalence of *Filaria sanguinis hominis*.

Thus what the Russian traveler and helminthologist Tedschenko showed in relation to the case of the "cyclops," considered as the intermediary host of the Guinea worm, Manson has shown to obtain in the case of the *Culex mosquito*. True there was a difference in detail, but both play the rôle of intermediate bearer, the little crustacean and the small gnat.

NEW YORK MICROSCOPICAL SOCIETY, February 1, 1878.—A paper was read by Professor R. Hitchcock on the subject of "Salicylic Acid in Mounting." This, it was alleged, was useful in developing certain detail of vegetable forms. A member present stated that whatever merit salicylic acid may possess, there was one drawback to its use, as he found by experience—that it was destructive to the color of the specimen.

## The Late King of Italy.

The proximate cause of King Victor Emanuel's death was asphyxia, due to the complete arrest, from red hepatization, of the function of the right lung, the function of the left having already been impaired by precisely the same malady, from which His Majesty suffered at his shooting box of San Rossore, in 1869. As in the generality of such diseases, when contracted under the "malarial cachexia," there was a copious sudaminous eruption, the "miliary fever" of the Italian text books. But this rather relieved than aggravated the symptoms, and left the cause of death, as has been stated, asphyxia. The inhalation of oxygen, which was practiced at the close, was intended to mitigate the august patient's sufferings, which by that time had become extreme. Just before this Dr. Bruno, as His Majesty's oldest medical adviser, was charged with the painful duty of announcing the hopelessness of all earthly aid. The King, sitting back, and twiddling his thumbs, as was his wont when making inquiries, asked, "Are the symptoms, then, so grave?" Dr. Bruno added, what the already shortened breath and gasping utterance of the patient had too plainly expressed, "They are," and recommended to His Majesty the last consolations of the Church. "Let the chaplain enter," said the King, in the same brief but tranquil tone. And then followed the ceremony and the scene with which the English public are by this time familiar. He died with a tranquillity truly marvelous, considering the conditions of death—died, as he had lived, a cool and intrepid soldier.—*Lancet*.

## Inventions Patented in England by Americans.

From December 21, 1877, to January 10, 1878, inclusive.

AERO-STEAM GENERATOR.—T. L. Jones, St. Louis, Mo.  
BLAST FURNACE.—J. F. Bennett, Pittsburg, Pa.  
BOOT HEEL.—J. Dalton et al., New York city.  
CHAIR, ELEVATING.—S. S. White, Philadelphia, Pa.  
DOOR AND WINDOW FASTENING.—N. Thompson, Brooklyn, N. Y.  
DOOR LATCH.—C. Walton, Philadelphia, Pa.  
FEED WATER APPARATUS.—F. A. Pratt, Hartford, Conn.  
FIBER-TREATING MACHINE.—R. Kitson, Lowell, Mass.  
GRINDING AND SEPARATING MACHINE.—D. C. Newell, New York city.  
HAT LINING.—W. L. Bigelow, Boston, Mass.  
HULLING MACHINE.—J. C. Vincent et al., New York city.  
INGOT MAKING.—B. C. Lauth, Pittsburg, Pa.  
KERITE.—A. G. Day, New York city.  
KNITTING MACHINE.—C. J. Appleton, Philadelphia, Pa.  
LABELS, ETC.—C. C. Macbrair, Cincinnati, O.  
LAMP BURNER.—C. F. A. Hinrichs, Brooklyn, N. Y.  
LOG.—D. Carroll, Spring Creek, Pa.  
NUT LOCK.—J. Jones, Chicago, Ill.  
NUT LOCK.—E. Reese, Baltimore, Md.  
OAKUM MACHINE.—J. M. Blake, New York city.  
PACKING BOX.—H. C. Stone, Brooklyn, N. Y.  
PANTALOONS.—M. Krickl, New York city.  
PEN AND PEN HOLDER.—J. Reckendorfer, New York city.  
PIPE JOINT.—W. Painter, Baltimore, Md.  
PLOW (2).—L. Chapman, Collinsville, Conn.  
REGULATOR CLOCK.—E. J. Murybridge, San Francisco, Cal.  
ROTARY PUMP.—T. Wilbraham et al., Philadelphia, Pa.  
SEA SICKNESS, PREVENTING.—J. Commins, Charleston, S. C.  
SHOE MACHINE.—B. F. Larrabee, Lynn, Mass.  
SHUTTER.—Wm. Menzies et al., New York city.  
SIGNAL LIGHT.—C. F. Houghton, Corning, N. Y.  
SOLDER WIRE, ETC.—H. G. Hulburd, Placerville, Cal.  
STEAM GENERATOR.—Automatic Boiler Company, New Haven, Conn.  
STEERING AND PROPELLING VESSELS.—W. W. Shoe, Philadelphia, Pa.  
STONE-SAWING MACHINE.—W. Radcliff, New York city.  
STOPPER AND BUNG.—F. A. Howig, San Francisco, Cal.  
STOVE.—C. W. Durham, Chicago, Ill.  
STRAW-SEWING MACHINE.—S. C. Brown, Philadelphia, Pa.  
STRAW-SEWING MACHINE.—S. Henshall, Philadelphia, Pa.  
SUGAR-COMPRESSING MACHINE.—A. F. W. Partz, Philadelphia, Pa.  
TRANSMITTING POWER.—R. Farley, Jr., New York city.  
TRUSS.—J. B. Brown, Chicago, Ill.  
TYPE WRITER.—G. W. N. Yost, New York city.  
UTILIZING STEAM POWER.—W. R. Comings, New Britain, Conn.  
VEHICLE SPRING AND AXLE.—S. W. Ludlow, Cincinnati, O.