Patent Department

Automatic Telegraphy.

Among all the problems which engage the attention of inventors there seems to be none more attractive than that of combining telegraphy and typewriter in such a manner as to produce a high-speed instrument saving time and labor at the wire. Automatic senders and receivers of one kind or another are submitted to the Western Union at the rate of about one a week and rejected at the same rate.

There is a fortune in store for the man who can invent a high-speed sending and automatic receiving instrument, says The New York Sun, but there is one tremendous obstacle in the way of inventors who attempt it. That obstacle is the limit to the capacity of the operator of the typewriter.

It is comparatively easy to invent a combination of typewriting machine and telegraph instrument in which the operator, when he pounds the keyboard at one end of the wire, records, after the manner of the stock ticker, line by line on ordinary paper at the other end of the wire the words he frames at his end. The trouble is that he cannot do it fast enough.

The operator who in practice can typewrite 100 words a minute has yet to be found. The speed at which the wire can carry the message is almost limitless. At present it is limited only by the capacity of the operators, sender and receiver, and speed, even more than labor-saving, is the thing the telegraph companies are seeking.

For the last three years the Western Union has been experimenting on two circuits between New York and Chicago and New York and Buffalo with an automatic system called the Buckingham. This is not strictly a combination of telegraph and typewriter.

The typewriter is a perforating instrument which punches holes in sheets of paper which are fed into the sending instrument and are sent and received automatically. By this system from fifty to sixty messages of an average of thirty words each can be sent an hour. The trouble about this is that two or three men are required to prepare the messages.

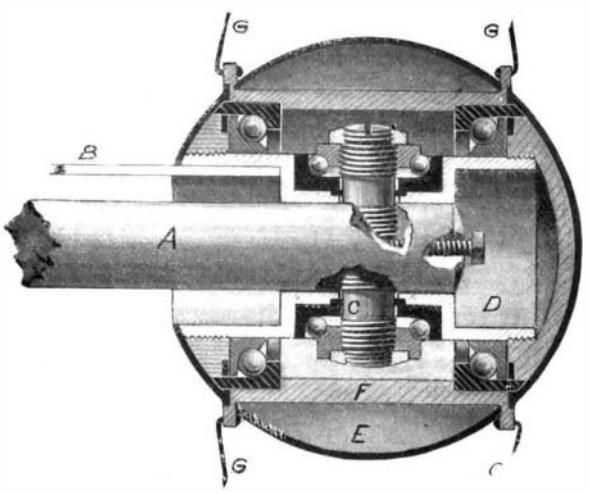
There is an instrument already invented and now being perfected and developed for commercial use which may be brought into practical use before automatic telegraphy comes to pass. This is the Poulson telephonograph, invented by a Dane.

In this instrument words spoken into a phonograph combined with a telephone are reproduced on patent tape at the other end of the wire. Should this be developed cheaply and universally it may revolutionize telegraphy.

PIVOTED HUB.

The accompanying illustration shows an improved pivoted hub which is more especially designed for the front or steering wheel of a road vehicle, to permit the convenient and quick turning of the wheel in the desired direction. The construction is such as to reduce the friction of the working parts to a minimum, and the various details are so arranged as to facilitate adjustment, permit proper lubrication and render the device entirely dust-proof.

The wheel, which is mounted on axle *A*, is steered

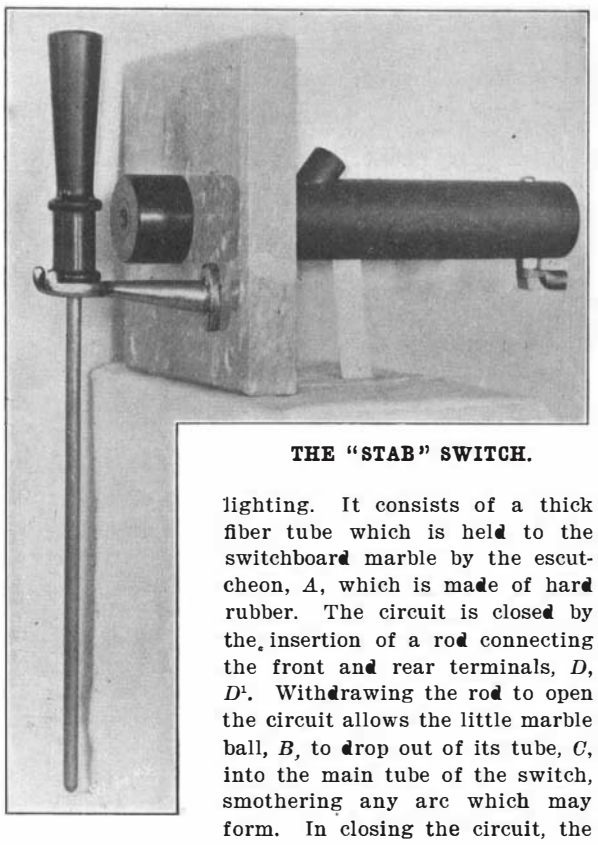


PIVOTED HUB.

by a bar *B* secured to the inside of the bearing *D*. A vertically-disposed pivot *C* passes through this bearing and the axle, and is held firmly in place by a set screw. A cone is screwed on each end of the pivot piece, engaging balls mounted in a cup fitted in a recess of the tubular bearing *D*. Ball bearings are also mounted near the ends of the tubular bearing to support the hub *F*. A spherical covering plate *E* fits over this hub between the annular flanges to which the spokes *G* of the wheel are secured. Suitable packing rings are provided at the bearings to prevent the entrance of dust, and lubricants are admitted through a pipe in the hub. The inventor of this device is Mr. J. H. Genter, 25 Second Avenue, Albany, N. Y.

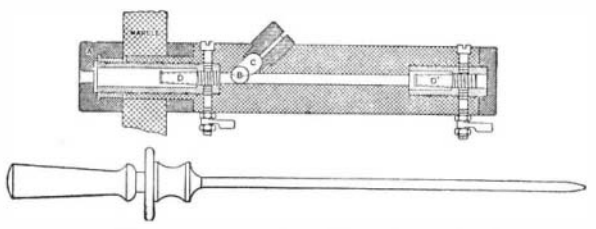
THE "STAB" SWITCH.

A new form of electrical switch is shown in the accompanying pictures. It is known as the "Stab" switch, and while its exceedingly neat appearance is one of its strong features, it is said to be of great efficiency, being designed particularly for series arc and incandescent



THE "STAB" SWITCH.

lighting. It consists of a thick fiber tube which is held to the switchboard marble by the escutcheon, *A*, which is made of hard rubber. The circuit is closed by the insertion of a rod connecting the front and rear terminals, *D*, D^1. Withdrawing the rod to open the circuit allows the little marble ball, *B*, to drop out of its tube, *C*, into the main tube of the switch, smothering any arc which may form. In closing the circuit, the



SECTION OF THE "STAB" SWITCH.

rod, which is pointed, pushes the marble ball up into the tube, *C*. It is claimed that this switch works satisfactorily up to 6,000 volts, and it is readily removed from the marble by simply unscrewing the escutcheon.

Franklin Institute Prizes for Inventors.

The Franklin Institute of Philadelphia has from time to time received endowments for the purpose of enabling its Committee on Science and Arts to recognize in a fitting manner noteworthy contrivances of American inventors. The Institute issues diplomas of merit to applicants in cases where awards of medals have been made to inventors, and where the applicants have failed to receive recognition for their share in the development of an invention. In order further to increase the value of awards as well as to give greater publicity to the work of the Committee on Science and the Arts, each award or recommendation is accompanied by an engraved certificate of the fact.

In the month of May, 1890, Edward Longstreth, machinist and retired member of the Baldwin Locomotive Works, deposited with the Franklin Institute the sum of $1,000 for the founding and perpetuation of the Edward Longstreth silver medal. The interest accruing from the principal of the sum is used in awarding the medals for encouragement of invention, and in recognition of meritorious work in science and the industrial arts. The awards are made by the Franklin Institute through its Committee on Science and the Arts.

Mr. Longstreth also presented to the Institute twelve silver medals and their dies. These Longstreth medals are awarded for useful inventions, important discoveries, and meritorious work in contributions to science or the industrial arts.

Mr. John Scott, an Edinburgh chemist, in 1816 bequeathed the sum of $4,000 to the corporation of the city of Philadelphia, directing that the interest and dividend on that sum be laid out in premiums to be distributed among ingenious men and women who make useful inventions. Each premium of $20 is accompanied by a copper medal bearing the inscription "To the most deserving." These awards were later vested in the Franklin Institute. The rules for the John Scott legacy premium and medal can be obtained from the Institute.

In 1848 Elliott Cresson, of Philadelphia, conveyed to the Franklin Institute the sum of $1,000. Out of the first sufficient moneys received for interest on this sum, suitable dies were to be prepared for striking a gold medal. After the dies had been prepared, the Trustees were to have gold medals made, which the Treasurer of the Franklin Institute was to deliver to such persons as had made meritorious discoveries in the arts or sciences or who had invented or improved some useful machine or had devised some new process or combination of materials in manufactures, or had shown ingenuity, skill or perfection in workmanship.

The Origin of the Omnibus.

No less a personage than the famous mathematician, Blaise Pascal, is said to have introduced the important vehicle, which we call the "omnibus." Unlike most other men of learning, Pascal was more or less interested in the affairs of practical life. He was the inventor of the push-cart that now perambulates our streets.

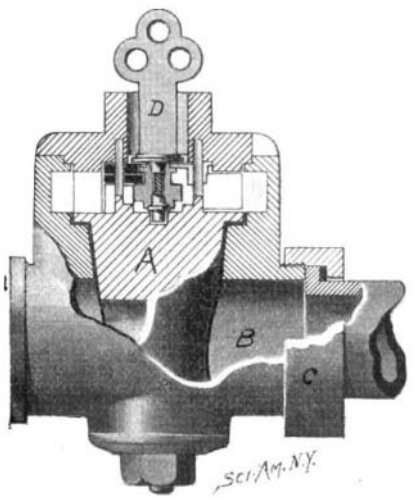
In 1661 he had large wagons built for regular traffic in the heart of Paris. He allied himself in this undertaking with several influential friends, among whom was the Duke de Roannes.

In 1662 Louis XIV. granted letters patent to Pascal, in which it was said that these carriages were intended for the comfort of poor people who had to go to courts of justice, or who were sick and so poor that they could not afford to pay the two pistoles exacted by the chairmen and the drivers of coaches. At first the use of the vehicle was not generally permitted. A royal decree forbade its use by soldiers, pages, lackeys, and other liveried servants, as well as artisans and porters.

Pascal, in spite of the fact that he only lived to be thirty-nine, is said to have made no inconsiderable sum out of his invention. After the vehicle had been in use for some sixteen years, it was abandoned for various reasons. It was not until 1812 that it was again introduced, this time in Bordeaux, which city was followed in 1821 by Nantes and in 1827 by Paris. The vehicle was improved and rapidly became popular. Now it has been almost displaced by the tramway. In modern times the vehicle was called an omnibus simply for the reason that it was intended for the carriage of all, without any restrictions as to lackeys, pages, or footmen.

LOCK VALVE.

For the purpose of preventing dishonest persons from using water or gas without the same having passed through the meter, Mr. William H. Baker, of 156 Waverley Place, New York city, has designed a valve which may be operated by the use of a key only. The valve plug *A*, as shown in our illustration, which is provided with the usual central opening for the passage of fluids, fits snugly into the valve-casing *B*. The lower end of the plug is turned down and threaded to engage a nut which securely holds the plug in place. A cap-piece fits over the upper end of the plug in a socket in the valve casing. The under surface of this cap-piece is provided with a suitable lock having bolts, which may be operated to enter recesses in the side walls of the valve casing. The lock is operated by the key *D*. The key passes into the lock between projecting walls on the cap-piece which form an angular nut. When the bolts have been withdrawn from the recesses in the valve casing, this nut may be



LOCK VALVE.

gripped by a wrench and the cap-piece rotated. The valve plug is provided with posts which enter sockets in the cap-piece, so that rotation of the cap-piece results in the opening or closing of the valve. The lock shown comprises a key-post and a number of independent tumblers; furthermore, the lock is double-acting, in that it has two bolts sliding in opposite directions, the bolts being to some extent independent, so that it would be extremely difficult to open the lock without the use of the proper key.

Brief Notes Concerning Patents.

Henry Finne, Norwegian of Stavanger, has invented a machine which has marvelous capacity for making the boxes in which sardines and anchovies are packed. Hitherto a skilled laborer could make about six hundred tins per day, but by the use of this machine about eighteen thousand can be turned out with the same labor.

Since the beginning of the coal strike, there has been a great activity among the inventors of various apparatus designed to utilize oil as fuel. There has been a weekly average of twenty-five applications for inventions of this character. The total number of patents granted for these devices to the first of September was 3,980. Of this number, 1,280 provided for the burning of the oil directly, and the others made use of the vapors. These two divisions represent the basic ideas at the root of all devices for making use of oil for fuel.

Oscar P. Ostergren, a Swede who figured largely a few years ago as inventor of a number of appliances for the manufacture of liquid air, on which one of the leading companies endeavored to operate, is reported to be violently insane and has been placed in the Bellevue Hospital in New York. The company with which he was identified, equipped a place in New York and did engage in the manufacture of liquid air in a small way, but before it could get seriously at work the members of the company became engaged in dissensions. Ostergren was the designer of an oil engine which is in general use.

A scheme to establish a home for indigent inventors is being actively agitated by J. Dana Bickford, who himself is a well-known inventor. The project has received a great impetus already in the promise of a site for the institution. This consists of a fine old mansion at West Medford, Mass., which has a valuation of about $20,000, and with this as a start, an effort is about to be made to interest a number of the more prominent persons in this line of work, with a view of securing subscriptions. It is said that Mr. Edison has lent his name to the furtherance of the project, as well as a number of others equally prominent.

Mr. C. T. Blacklidge, of the United States Coast and Geodetic Survey, has patented a new style of copper-plate map by the heliogravure process. His method consists in making a reverse negative of the drawing, from which negative a transfer is printed on pigmented gelatine. The gelatine is coated with graphite, immersed in an electrotype bath, and a thick plate deposited, about two weeks being required. The plate simply needs cleaning and retouching to make it ready for printing. The work of engraving a map by hand is necessarily slow and tedious. By the new process the work is considerably facilitated.

John H. Felmlee, an inventor of Pittsburg, Pa., has just perfected a wrapping machine which will handle with great rapidity a piece of any size from a caramel to a cake of soap, and wrap it up in a faultless manner. A company has been formed, and will soon be engaged in the manufacture of the machines to meet the requirements of various industries. The machine performs about forty different operations, including the cutting of the paper from a roll. A machine has been constructed which is worked by hand, and the inventor says the capacity of this is 175 pieces per hour, but this would be greatly increased by driving it with an engine.

A pressure-recording oarlock has been invented by Prof. W. C. Marshall, instructor at the Sheffield Scientific School at Yale. The device will be of great value in the selection and training of oarsmen, and it will be put to the test next fall in the selection of candidates. The apparatus weighs only about three pounds, and is placed on the end of the outrigger in the place of the usual oarlock. By its use the pressure exerted at every stroke is measured and registered, so that accurate comparisons can be made of the actual work done by a man at start and finish. This record can be kept for a distance of four miles. Application has been made for a patent.

Former State Senator James Arkell, of New York, who died during the early part of August, was a holder of a number of valuable patents covering the manufacture of paper for various special purposes. Some time ago he devised a method of making a paper which had the quality of stretching slightly without breaking, and this came into great demand for the lining of sugar barrels and other similar purposes. This paper was yielding only in one direction, and he more recently improved on the process and succeeded in making the paper more elastic than ever. He was an Englishman by birth, and came to this country when quite a boy and began life on a farm. He soon after drifted into the newspaper business, and managed a local paper. From this he went into paper making. During the civil war he made a great deal of money out of the manufacture of paper sacks by a process which he devised.

Legal Notes.

Sale of Parts of a Patented Combination.—The recent suit of the National Phonograph Company vs. Fletcher (117 Fed. Rep. 149) brought out a curious state of facts. The complainant owns three patents covering reproducers used in the Edison phonograph. The defendant by circulars requested owners to send their Edison reproducers and promised to return them so improved that they would better perform their functions. Many reproducers were received, nearly all of which came from one or two dealers in phonographs or phonograph supplies. A few were received from individual sources. Hence, the defendant did not buy or sell reproducers in the usual way, but for the purpose of their alleged better operation added labor and material to those owned by others. For this he was paid. There was no direct evidence that the reproducers refashioned thereby received increased strength. Several of the reproducers were sold primarily by the complainant; each purchaser paid the complainant the proper tribute. There was no direct evidence that the defendant's traffic had diminished the plaintiff's sales in number or amount. In what way had the defendant been wrong? He added his improvements wherever owners of reproducers would permit him so to do; and save in a few instances returned them to dealers. The defendant substituted new parts for some of those that he did not patent, changed others, and used some of the old parts in new relations. After these changes he returned the machine to the dealer to be sold as that of the patentee.

Since there was no occasion for repairs, the law relating to that subject had no specific application. The question was, therefore, whether a person may receive reproducers needing no repairs, place his improvements thereon and return with a substitution, or change of relation of every part; or with a specifically patented part of the combination reproduced and readjusted. As to the renewal of the patented parts, the Court held that there was no doubt of infringement. The final inquiry related to the infringement of the Edison patent which covered the combination of parts which had been changed. The Court held that the modification, substitution, and change of relation of parts passed the limit of allowable repairs. Reproduction, not restoration, was intended; for there was no occasion for restoration. If the defendants had the right to repair, it could not be maintained; for no one acquainted with the appearance of the Edison reproducer could easily discover it in the Fletcher reproducer.

The defendant's broad claim was that he could take the reproducers with all their parts and refashion or reassociate the parts, so that his creation and that of Edison's were blended and placed with dealers for sale as Edison's genuine device. In other words, the defendant claimed the right to gather up all of the defendant's output, recast, subtract what he wished, add his own parts, good or bad, and float again as the patented product simply because he used some of the original parts. The Court remarked: "If patented machines may be refashioned to suit every skilled or unskilled improver and marked as originals with Fletcher's improvement, the inventor is at the disadvantage of having numberless coadjutors, whose association he does not invite and whose improvements may mar the action, merit or fame of the original device. The improver obtains the benefit of a patent without return, it may be, of equal benefit, and the inventor's goods are on the market in any or every form, good and bad. It is true that an owner may do what he will with a patentable machine which is his property. But the experiment is at his own peril. If he attempts to resell it as the inventor's, he may be destroying the merit of the original invention, and may be substituting something of his own conception. What a man may do for his own use in accordance with a patent is not what he may do for the purpose of selling as another's a patented article." It was therefore, considered that the defendant's traffic involved the placing of Edison's reproducers on the market hampered with alleged improvements which might injure complainant's business, and which concealed the identity of the original reproducers. A decision was given for the complainant.

Anticipation and Construction of Claims.—Suit was brought by the De Lamar Company against the De Lamar Mining Company for infringement of letters patent granted to Waldstein for an invention in an improvement in a process for the recovery of precious metals from their solutions. The Circuit Court held the patent void. The plaintiff appealed, and the Circuit Court of Appeals (117 Fed. Rep. 240) affirmed the decree. Waldstein's claims covered the use of zinc dust in a state of agitation; secondly, a definite quantity of zinc dust in a state of agitation sufficient only in quantity thoroughly to precipitate the contained metals; and thirdly, a process of extracting and recovering metals from their ores consisting of certain specified steps. The first and fourth of these steps were held by both courts to be beyond question old. The second and third of these steps consisted in supplying to the solution charged with the precious metals the exact quantity of zinc dust ascertained (without telling how) to be sufficient to precipitate the metals, and agitating the solution and zinc dust until the metals were precipitated and the dust absorbed. The Circuit Court of Appeals found that the additional features in requiring the use of a definite quantity, or the exact quantity of zinc dust sufficient to precipitate the contained metals, did not render the process patentable; since the proper proportion was not given, nor the means for ascertaining it. Conceding that such fact did not render the claims fatally defective, the Court held that the patentee not being the inventor of the use of zinc dust by means of agitation as a precipitating reagent, the public was free to use such quantity as might be required best to produce the desired result.

False Notice of Copyright.—A section of the United States copyright law provides that "every person who shall insert or impress" a false notice of copyright "in or upon any book . . . for which he has not obtained a copyright in the United States" shall be liable to a penalty of $100, recoverable one-half for the person who shall sue for such penalty and one-half for the use of the United States. In 1896 Raphael Tuck & Sons Company imported from a foreign country books bearing a false copyright notice. The notice was impressed upon them in Germany by the publisher, by authority of the importers, and the importers subsequently sold the books in this country. In an action against the importers for the penalty the United States Circuit Court for the Second Circuit held that they are not liable, as the statute could not have extra-territorial effect. In 1897 the copyright law was amended so as to subject to penalty, in addition, every person "who shall knowingly issue or sell any article, bearing such false notice of copyright." As the books in question were imported prior to the passage of the amendment, the court held that they were not liable under it, though it was shown in the action that part of them were sold in the United States after its passage.—McLoughlin vs. Raphael Tuck & Sons Company, 115 Fed. Rep. 85.

The Effect of Prior Patent Adjudication Infringement Suits.—In an action recently brought by the Westinghouse Electric and Manufacturing Company against the Royal Weaving Company, the United States Circuit Court for the District of Rhode Island stated that the decision of a Circuit Court sustaining the validity of a patent and affirmed by the Circuit Court of Appeals should be accepted as controlling by a Circuit Court of another circuit on an application for a preliminary injunction against infringement in the absence of contrary decisions, unless it is shown not only that new matter and new evidence are presented, but also that the new matter is such as might require a different decision as to the validity of the patent.

If the owner of a patent has established its validity in an ably-contested litigation there seems no reason why he should not be entitled to protection of rights thus established, and why he should be refused a preliminary injunction against another infringer. The action which called forth these expressions of opinion had as its basis the Tesla patent for electromagnetic motors and for a method of the electrical transmission of power.

The Effect of Prior Public Use on Validity.—The Thomson-Houston Electric Company brought an action against the Lorain Steel Company (110 Fed. Rep. 654) for infringement of the Van Depoele patent for an improvement in commutator brushes or contacts. The essential feature of this invention is the use of carbon as the material for the brushes. In the Circuit Court the conclusion was reached that the patentee made an open and public use, not experimental, of his carbon brushes on a motor in what was known as the "telpher" system for more than two years prior to his application for the patent. On this ground the Court dismissed the bill. The case was appealed and the decree affirmed. (117 Fed. Rep., 249.)

Dedication to the Public.—Though clear evidence of an intention to dedicate an improvement to the public is indispensable to establish an abandonment under the patent law, still it is held that a patentee dedicates to the public every combination and improvement apparent on the face of his specifications which he does not point out and distinctly claim as his discovery or invention, and the insertion, in a reissued patent, of claims for inventions which were described, but which the patentee never claimed or intended to claim, or to protect by the original patent, is unauthorized by the acts of Congress, and such claims are void.—Ide vs. Trorlicht Duncker & Revard Carpet Company et al., 115 Fed. Rep. 137.