life-saving gas burner on which he has been experimenting for two years. It is designed to cut off the flow of gas automatically when the flame is blown out or accidentally extinguished. The flow of gas is cut off by the contraction of a curved strip of metal acting upon a valve.

Hugh Mann, brother of D. D. Mann, vice-president of the Canadian Northern Railway, was accidentally killed while superintending the operation of his tracklaying machine just beyond Erwood, N. W. T. The massive machine got out of order, and, while endeavoring to set it right, he lost his footing and was crushed. Mr. Mann was taken to the station at Erwood, where he died. For years he had been perfecting this mechanism, which was his invention. Several times he had narrow escapes from death.

Ezra T. Gilliland, a well-known inventor who for many years was a co-worker with Thomas A. Edison, and who was responsible for many of the features of the Bell telephone, died on May 13 at his home at Pelham Manor, N. Y. He was 56 years of age, and at one time was a director of the Bell Company. Up to the time of his death he was an active worker in the electrical field, and maintained a very complete laboratory in the upper part of his handsome home, where he had seven skilled men employed on electrical work

The Northern Pacific Railroad Company has been looking into the matter of fuel briquettes, and some tests have been made with a fuel of this character invented by Dr. R. J. Schrimper, of St. Paul, Minn. According to Dr. Schrimper's formula, soft-coal refuse largely enters into the composition of these cubes. It is said that they can be made at a cost of \$1.25 per ton. The trial resulted in demonstrating the fact that the use of the briquettes showed an economy of forty per cent. It is said that one ton of the latter will go further than a ton of soft coal by about between twenty-five and fifty per cent.

Edward Atkinson, of Boston, Mass., the anti-imperialist and sociologist, has recently turned his mind in a more practical direction, and has been for some time giving his attention to the manufacture of fuel from mud. He has recently made a quantity of briquettes, the base of which is said to be mud, which Mr. Atkinson claims is as good as Irish peat. Samples of the fuel were burned and gave a very desirable fiame, strong and clear, and calorimetric tests made by Prof. Norton, of Harvard, showed it developed about two-thirds as much heat as its weight in coal. Mr. Atkinson says that he will continue his experiments in the direction of making a machine for the pressing of the mud into the desired shape.

Irving M. Scott, the vice-president of the Union Iron Works, of San Francisco, Cal., who died recently in his 65th year, started in a very humble way, and finally worked himself to a position of unusual prominence, the shipbuilding feats of his company having been the means of making his name a familiar one in industrial circles all over the world. He found employment when a very young man in a machine shop in Baltimore, Md., receiving three dollars per week, but at the age of twenty-two he was not only an expert machinist, but a fine draftsman. He was sent to the Pacific coast at this time in charge of a steam engine, and while there accepted a position in the Union Works, which were then the property of Peter Donohue. It was not a great while before he was the principal member of the firm. It was with great difficulty that he secured for his company the contract for the construction of the protected cruiser "Charleston," and this work was so successfully carried out that other contracts were readily obtained. His name was among those presented at the convention which nominated Roosevelt for the Vice-Presidency.

By the use of a pneumatic device as a substitute for the spring on the arm of a trolley car, it has been found that the trolley wheel is held in much closer contact with the wire, and that a greater efficiency is secured and a higher speed accordingly maintained. The device is the invention of C. V. Greenamyer, the mechanical engineer of the Pacific Electric Company, and has been in successful use on that line, where high speeds are the rule. It is said that the wheel is in close contact with the wire constantly, thereby saving much power which is ordinarily lost through the formation of arcs in the circuit by imperfect contact. In this manner much of the energy which is intended to be utilized in the form of power is lost in light and heat. Another feature of the device is that when, occasionally, the trolley wheel does slip from the wire, as is often unavoidable, this pneumatic pressure is at once released, and the pole falls almost to the roof of the car, leaving no possibility of damaging the overhead work of the line. When the conductor has again secured control of the pole by grasping the cord which hangs from it, the power is thrown into action by the turning of a lever in the motorman's end of the car.

Legal Notes.

The Brislin-Carnegie Infringement Suit on Appeal.—Some time ago we digested in these columns the decision in the suit of Brislin vs. Carnegie for infringement of letters patent 345,953, granted to Brislin and Vinnac, for "A Feeding Mechanism for Rolling Mills," and infringement of letters patent 352,748, issued to Hanley and Richey for "A Feed Table for Rolling Mills." It will be remembered that the Circuit Court of the United States for the Western District of Pennsylvania held that the first claim of the first patent had been infringed, and that the second patent had not been infringed. The case has now come up on appeal. The decision of the Circuit Court is reversed, a result that means much for the steel industry of this country.

In the process of rolling iron it is necessary to elevate the iron so that it will pass through between the upper and middle rolls when a three-high mill is used. In the case of a two-high mill it is necessary to pass the iron over the top of the upper mill in the process of rolling. When moving the iron from one groove to the other, and from one set of rolls to another, the iron must be moved sidewise bodily. In heavy rolling, the labor of elevating the heated iron and of moving it laterally for the several passes required in the process of rolling is arduous, and the difficulty of this manipulation causes much loss of time as well as of heat. Consequently, it is more difficult to roll the iron; indeed, the stiffening of the iron as it cools, which is occasioned largely by this loss of time, often results in the breaking of the mechanism connected therewith. It was the purpose of the Brislin invention not only to effect the vertical lifting of the iron, but also to move it laterally in the process of rolling. Broadly speaking the invention consists in a lifting mechanism and laterally-moving mechanism combined with rolls of a rolling mill for the vertical lifting and lateral movements of the heated iron in the operation of rolling it. The first claim of the patent, which alone was in contention on appeal, reads as follows:

"1. The combination, in a rolling mill, of rolls, a carriage, a roller frame therefor for feeding to the rolls and pivoted at its outer end means for laterally shifting said carriage and roller frame, and devices for inclining said roller frame on its pivot, so as to vary the feed of the latter to the rolls, substantially as set forth."

The history of the prior art was carefully considered by the Circuit Court, and likewise by the Circuit Court of Appeals. Both conceded that hand feeding to the rolls was at one time general, and that various devices for lifting billets and bars, by hooks attached to pulleys for heavy work, were in use before mechanical rolling was practised. The court, however, did not find that the invention of the patent in suit made the first advance from manual rolling to complete mechanical rolling. "It no doubt made an advance in mechanical rolling, which is quite a different thing from an advance to mechanical rolling." The French patent to Sauvage, May 27, 1858, which had been cited as an anticipation by defendants in the prior suit, and which had been rejected as such by the Circuit Court, was carefully considered on appeal. It was considered by the Circuit Court that the device of Sauvage's patent, so far as a single stand of high rolls is concerned, presents all the advantages of complete mechanical rolling. All that it lacked were means of laterally shifting the table. The suggestion of the moving of such a table on a carriage or truck laterally, so as to bring it successively in front of stands of rolls placed side by side, did not, to the Circuit Court of Appeals, seem to involve patentable invention. Indeed, it distinctly stated that the mounting of such a table upon the truck moved upon rails in front of the rollers would violate a patent monopoly were it granted. "The traveling crane comes within its functional principle."

A patent granted to Alleyne in Great Britain on April 4, 1861, describes a rolling mill of several stands of two-high rolls, combined with both laterally-moving mechanism and vertically-moving or lifting mechanism, the lifting mechanism differing from that of the patent in suit only in that the table is raised bodily and horizontally, instead of the free end next the rollers only being raised on the fulcrum of the pivoted

The next development of the art of complete mechanical rolling is illustrated by the feed roller tables of the Fritz and Wellman types, which are practically the alleged infringing devices. In the Fritz apparatus the feed rollers are positively driven by a shafting and operating gear, and their rotation is reversible. Fritz also devised a turning and lifting mechanism, by which the piece to be rolled could be turned upon the moving table, so as to be rolled both sidewise and edgewise. "So far as there was necessity for only one stand of rolls, complete mechanical rolling could be

accomplished by the Fritz device. The roller table, to be sure, was lifted vertically and horizontally, but the function of such movable table and the positively-driven rollers was the same as that of the pivoted table and rollers of the patent in suit." The tables of the Fritz invention were raised and lowered by hydraulic cylinders. There was no lateral movement of these tables, which being of the width of the rolls were sufficient to serve the several passes of the single stand of rolls

Wellman followed the general prior teaching of the art. He employed a table pivotally supported at its outer end on a stationary foundation. This construction, of course, leaves the inner end free to be raised or lowered simultaneously by hydraulic cylinders placed on one side of the rolls. The Wellman tables do not travel laterally, for the simple reason that there is no necessity to transfer the rolled product from one stand to another.

The most pertinent reference cited in anticipation of the Brislin patent is that granted to Saylor, June 30, 1885. In the device of that patent may be found feed tables equipped with positively-driven feed rollers, which are raised and lowered vertically and horizontally. These tables are mounted upon carriages run upon tracks parallel to the axis of the rolls, and are operated on both sides of the rolls. The Court below took the position that the combination described in the first claim of the patent in suit, inasmuch as it provides for the lateral movement of a feed roller table pivoted at its outer end, involves such an invention as to entitle it to the monopoly of the patent. The Circuit Court of Appeals held that this decision is too sweeping, that Brislin cannot claim all lateral movement of a feed roller table capable of vertical lifting, because more than one previous patent has described a device for accomplishing this result.

What Constitutes Public Prior Use of a Design.—The case of Young vs. the Clipper Manufacturing Company (121 Fed. Rep. 560) admirably exemplifies what constitutes public use of a design. The suit in question depended upon the alleged infringement of a design patent granted to R. McIntosh, assignor to the plaintiff "for a clip or fastener" of resilient wire to hold together sheets of paper, documents, and other articles by slipping over and clamping their edges. The defense set up that the design was in public use for more than two years before the application, which was filed June 24, 1897.

The inventor made some of the clips in May, 1895, and gave one to a printer, who had an engraving company prepare an engraving of the clip for letterheads. The qualities of the clip were set forth both on the letterhead and on envelops. Some of the clips were placed upon the edges of letters and tags sent by the inventor in correspondence concerning them, before June 24, 1895.

The court held that since a design is patentable for its appearance, exhibition constitutes a public use within the meaning of the statute and the patent was therefore declared void.

THE EFFECT OF AN INVALID PATENT ON A CONTRACT TO PAY ROYALTIES.—The case of the Willcox & Gibbs Sewing Machine Company vs. Sherborne (123 Fed. Rep., 875) brings out an interesting state of facts which probably occurs not infrequently. In an action to recover royalties from a licensee under a patent. the defendant pleaded as a defense that the contract had terminated because the patent was invalid. The Court held that a judgment for plaintiff is conclusive between the parties on this issue, and cannot be raised by defendant and again litigated in a second action to recover royalties subsequently accruing. A decree dismissing a bill for infringement of a patent, filed by a licensee thereunder, where the defenses pleaded were the invalidity of the patent and non-infringement, and the decree is not based specifically on either, will not be construed as an adjudication of the invalidity of the patent, which will be conclusive to relieve the complainant from liability for further royalties under the license contract.

The owner of a patent, in selling the patented article, may reserve to himself, as an ungranted part of his monopoly, the right to fix the price at which it may be sold by jobbers, or dealers purchasing from them; and a dealer who buys with knowledge of such reservation is bound thereby, and may be treated as an infringer if he sells in violation thereof.

Prior adjudications sustaining a patent, but which were entered by consent as the result of settlements between the parties, and in which the questions of the validity and scope of the patent were not considered by the court, are not sufficient as the basis for the granting of a preliminary injunction in a subsequent suit against another alleged infringer.