

**TRANSMITTING POWER FROM A CENTRAL STATION.**

There has long been needed a system for the transmission of power from a central station to distant points which would be economical and reliable in operation and simple in construction, and which would overcome the obstacles attending the use of either steam, compressed air, water, or electricity. The advantages to be derived from such a system are too well known and appreciated to need discussion.

By using an endless wire rope, the entire power of the driving engine—less only the loss occasioned by the friction of the pulleys over which the rope travels—can be utilized. When the bearings of the pulleys are properly constructed, this loss is but trifling; and it is an important feature of this method that just as much power can be taken from the rope at one or two miles from the engine as can be taken from it directly at the station. The adoption of such a plan would result in the saving of the cost of engine and boiler and of the expense of their attendance, would permit the space occupied by such machinery to be utilized for other purposes, would abate the smoke nuisance arising from the many furnaces now clustered within a small area, and would enable those located along the line of the cable to obtain a power just sufficient for their work, whether it be the running of a single sewing machine or the driving of an entire factory.

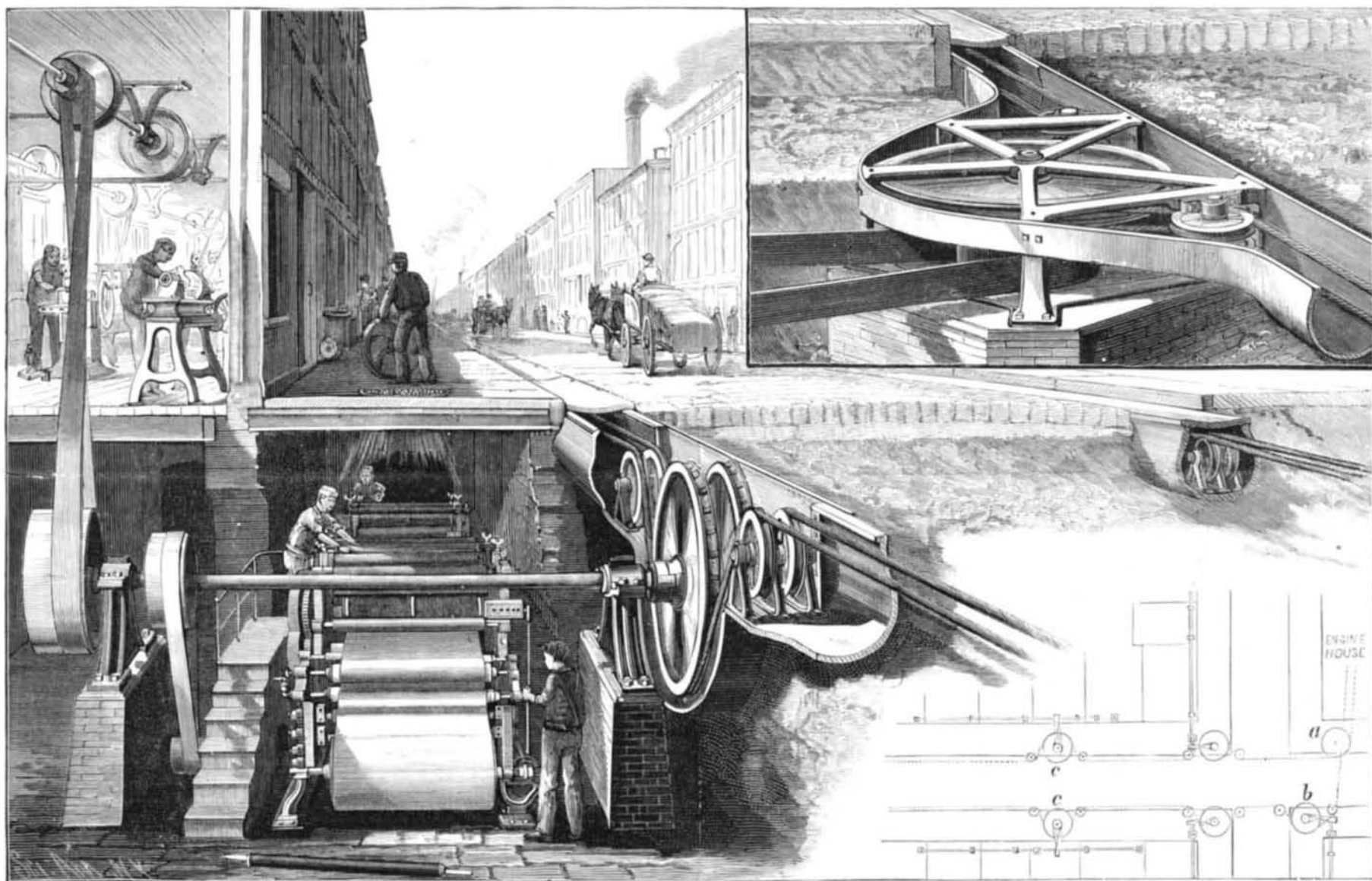
In order to take power from the cable and transfer it to stationary machinery, there is employed a grip pulley. At the point where the power is to be taken from the rope an opening is made in the tube, or a suitable chamber connected with the tube is constructed, so that the cable can be deflected and made to pass around one side of a grip pulley which is mounted on a shaft in the opening. Placed at each side of the opening are grooved pulleys of a suitable size, which are so mounted as to guide the rope to, and lead it away from, the grip pulley. This pulley can be placed either vertically or horizontally, as illustrated in the engraving. On the shaft is mounted a sliding clutch, on a feather, which can be moved against the side of the pulley, and either engage it by friction or by means of clutches. The speed can be easily regulated, as it is taken from the cable by means of differential pulleys, and the amount of power deflected at any point can be measured by a dynamometer. Any number of branch or supplemental endless cables can be located at various points and driven from the main cable. In order that no delay may be caused by the breaking of the cable, it is proposed to mount two ropes on two independent sets of pulleys in the same tube, thus keeping one rope always in reserve.

Among the many advantages which would accrue from the successful operation of this system in large cities are

**Is there a Snow Cap on Venus?**

The planet Venus is now a morning star, and is a very brilliant object without the aid of the telescope. In the telescope it is a beautiful crescent. Its position is very favorable for telescopic observation. Taking advantage of this fact, our townsman, Isaac P. Guldenschuh, who has an excellent silver on glass reflecting telescope of seven inches aperture, reports an interesting discovery on the morning of the seventeenth of Aug., between three and four o'clock. Mr. Guldenschuh saw in profile on the convex edge of the crescent a brilliant white lenticular spot. This was cut out by a regular curve from the convexity of the crescent. The line of demarcation was sharply defined. He said he had seen nothing like it except the snow cap on Mars.

We suggested to him that in all probability he had seen a snow cap on Venus, although at the time we had seen no report of such an observation by any astronomer. This bright, lenticular spot cut into the broadest portion of the crescent, showing that, if it were a polar snow cap, the pole is now turned diagonally toward the sun. This was not very surprising, as the difficulties attending the determination of the axis of rotation are very great, and to this day the inclination of the axis of Venus to her orbit is not accurately known. It occurred to us that Mr. Guldenschuh may have hit upon a discovery of importance, and



**BOONE'S METHOD OF TRANSMITTING POWER FROM A CENTRAL STATION.**

The accompanying engravings represent a system recently patented by Mr. John L. Boone, of San Francisco, California, in which a wire rope is used to transmit power from a central station. The tube or tunnel in which the cable runs is laid below the surface of the ground, and is led in any required direction and its course changed as desired, but it finally leads back to the central station from whence it started. Inside of the tube, at proper distances apart—about twenty feet—are mounted vertical pulleys, except at the angles where the direction of the tube changes, when horizontal pulleys are substituted. A wire rope is then laid in the tube, so that it will be supported upon the vertical and passed around the horizontal pulleys, and its two ends united, making it endless. In the engine house or at some other suitable point on the line is constructed a take-up for the slack of the rope, which is thereby kept taut. The cable is driven by an engine, or other power, at a central station.

The tube may be of any desired shape, but it is preferable to make it cylindrical, and, since it can be placed in a less exposed and less traveled position than those used in the system for propelling cars, it need not be made of great strength. In cities it is proposed to construct the tube along the edge of the sidewalk, just outside of the curbstone, and to carry it around corners and deflect it where desired, so as to best accommodate the users of power. In this case the tube is made with an open top over which is placed a removable concave cover, which serves as a gutter to carry off surface water.

those having a direct bearing upon the safety and health of the community. In this city we have from five to six thousand boilers, which are just so many sources of danger to life and property, even when surrounded with every precaution and tended with the utmost care and skill. The permanent removal of these boilers would have a direct effect upon the atmosphere by relieving it of the noxious vapors arising from the combustion going on in their furnaces.

Another sanitary result would be obtained by doing away with the numerous steam engines, many of which exhaust into the sewers, the effect being to drive the hurtful gases up into the buildings.

The elevator shaft, with its accompanying engine, is now an essential part of almost every building erected in the business quarters of a city. By a system such as we have described these could be more cheaply built and operated than they can at present, and, by reason of an ample and constant power always at hand, their usefulness would be greatly increased.

The system has been examined and warmly commended by Silas Seymour, late State Engineer of this State; by Silas B. Dutcher, late Superintendent of Public Works of this State; by C. E. Candee, the inventor, and former superintendent of the Wabash Railroad, and others. Any further particulars which may be desired can be obtained by addressing M. H. Farley, Esq., the authorized agent of the inventor, at 165 Greenwich Street, New York city.

immediately consulted the authorities upon Venus. We found that the estimated inclination of the axis of rotation is not far from  $75^\circ$ , a fact which would fit the observation. Judging the present direction of the axis, from Mr. Guldenschuh's observation, and tracing the planet back to the time before inferior conjunction, it was seen that there must have been winter at the pole now visible before conjunction, and that summer is now approaching.

Upon consulting Webb's "Celestial Objects," we found in the appendix the following statement, which seemed to explain Mr. Guldenschuh's success: "Much attention has of late been paid to this planet, especially since the silvered reflector has been found peculiarly capable of defining it." In the same appendix it was learned that the bright spot had been seen by Browning on the 15th of March, 1868. It was on the circular limb, about 80 degrees from the south coast or horn. Browning described it as "so luminous as to show projection like the snow on Mars." This confirms the accuracy of Mr. Guldenschuh's independent observation. We are inclined to believe that both observers saw a polar snow cap. With the great inclination of the axis of Venus, one pole must be in darkness for six of Venus' months, and there is reason to believe that there is a great deposit of snow and ice during this period. If the inclination be  $75^\circ$  degrees, the tropics are but fifteen degrees from the pole. We trust that Venus will be carefully examined. Perchance the spot seen by Mr. Guldenschuh may be visible in the many refractors owned in this city.—*Rochester Democrat.*