

### SHRINKING CRANKS ON SHAFTS.

A WRITER in a foreign journal gives the following method of shrinking a crank on a shaft: "When the crank has sufficiently expanded remove it smartly from the fire, and clear the hole from cinders, etc., by means of a wire brush (a piece of waste is not a good thing to use, as portions adhere to the metal and carbonize, remaining in the hole). Have tackle ready to immediately sling the crank upon its bearing, driving it on with a lead or copper hammer, or a sledge driving upon wood blocks, so as not to damage crank face. As soon as sufficiently driven home, drive a key in the keyway, a slack fit top and bottom, and a sliding fit sideways, thereby adjusting the crank accurately upon its seat. Try a square upon the crank neck and the boss to see that the crank is put on square with its shaft. Allow to slowly cool, and fit the keys."

### THE SMOKE PROBLEM IN ENGLAND.

ACCORDING to *Iron* of London, a Mr. Elliott, of that city, proposes to solve the smoke problem by condensing the smoke in water and recovering the by-products. To this end he has a tank of water in which are revolving stirrers driven by a small engine or by spare power. By means of a fan he draws the smoke from the chimney and forces it into the water at a point near the bottom of the tank. The smoke and products of combustion are then churned up together in the tank, the solid particles of the smoke and the sulphurous vapors and noxious fumes being arrested in the water. In time the heat of combustion warms up the water, and the steam is allowed to escape through a chimney into the air. When the water has become fully charged with the condensed smoke and other matters, it is drawn off and the tank is refilled with water. The charged liquor is to be afterwards treated, and the by-products due to the combustion of the coal are to be recovered. By this means it is claimed that not only will the smoke nuisance be abated but that a profit will be derived from the operation.

### A WIRE BOUND FLY-WHEEL.

A NOVEL fly-wheel of large dimensions, which differs materially in construction from those ordinarily in use, has been designed by Messrs. Mannesmann to guard against the terrible danger of bursting, to which accident cast iron fly-wheels are only too subject when worked at a high speed. This wheel, which is in operation at the Mannesmann Tube Company's works, in connection with their process for making seamless tubes, consists of a cast-iron hub, to which are securely bolted two discs of steel plates of about 20 feet in diameter. Round the periphery of the wheel thus formed about 70 tons of No. 5 gauge wire are wound, under a tension of about 50 pounds, thus binding the whole securely together. There can be no comparison between the resistance of a wheel so constructed to the centrifugal force, and that offered to this force by a cast-iron one. This fly-wheel, of 20 feet diameter and weighing 70 tons, revolves 240 times per minute, therefore the periphery of the wheel has a speed of 2.85 miles per minute, or nearly three times the speed of the "Flying Dutchman." It works on the main shaft from which the tube mill is driven by means of helical toothed wheels.—*Specialties.*

### TRADE PAPERS.

AS indicating the important position which trade and technical papers occupy at the present time, it may be mentioned that the managers of the advertising departments of the prominent daily papers are at present instructing their canvassers to give no attention whatever to soliciting lines of business in which the general public is not interested, and in which the services of the trade paper would be more likely to bring results than a daily paper. The rule is so closely followed by a number of the leading papers of the country that it may be accepted as the general policy of the newspapers of the day. Trade papers are constantly occupying a higher place in the estimation of the business public, and more particularly in the estimation of the manufacturers and wholesalers who use them, and upon whose patronage they depend for support. While trade papers a short time since consisted of little more than mere advertising pages, with random clippings from various sources, they are at present the result of the labor of large corps of able and experienced writers; and, taken collectively, they exhibit more

originality and more enterprise than, perhaps, any other class of periodicals at present published, not excepting the leading literary magazines.—*The Office.*

### SPARKS.

- ✓ The town of Palmerston, Ont., is to have twelve electric lights.
- ✓ Regina, N. W. T., is now in the enjoyment of electric street lighting.
- ✓ The electric light is about to be introduced in the village of Arthur, Ont. Terrebonne, Que., was lighted by electricity for the first time a few days ago.
- ✓ An effort is being made to form a local electric light company at Athens, Ont.
- ✓ The Methodist Church at Essex Centre, Ont., is now lighted by electricity.
- A system of incandescent electric lighting is about to go into operation at Kamloops, B. C.
- The Bell Telephone Co. will supply the town of Gananoque with an electric fire alarm system.
- ✓ The Ball Company's engine house at London, Ont., is being enlarged to accommodate a new 125 h. p. engine.
- ✓ A joint stock company is in process of formation at Exeter, Ont., to purchase the necessary plant to light the town.
- During the year just closed the Bell Telephone Company erected in Canada no less than 1,380 miles of trunk line wire.
- The Bell Telephone Co. propose to establish a night service at Chatham, and supply the town with an electric fire alarm system.
- ✓ The Vancouver, B. C., Electric Light Co. has suffered much annoyance by the breaking of arc light globes by mischievous boys.
- The Canadian electric companies are experiencing considerable difficulty in getting poles, and owing to the scarcity the price has risen.
- ✓ Messrs. Corley & Collins, of Mount Forest, Ont., have purchased a 40 light dynamo and will supply arc and incandescent lighting to the citizens.
- It is said that the prospect for the construction of an electric street railway at Kingston, Ont., is almost certain to be carried out the present year.
- ✓ Dr. Groves has introduced the electric light in the town of Fergus, Ont.
- ✓ It is the purpose to supply current to Elora and one or two other neighboring villages.
- A number of converters sent into Manitoba by an American company, of St. Paul, were recently seized by the Canadian Customs authorities on account of undervaluation.
- ✓ The telephone wires were recently stripped from the poles in Windsor, Ont., by a couple of enterprising thieves, who were arrested while trying to dispose of them in a Detroit junk shop.
- ✓ The Hamilton Electric Light Company's plant and business has been leased by the Electric Light & Power Company. Mr. W. J. Clarke, late of Trenton, is the manager of the new company.
- The employees of the Brooks Mfg. Co., of Peterborough, recently presented Mr. Taylor, superintendent, and Mr. Castle, foreman, with kindly worded addresses and other tangible tokens of esteem.
- The Ontario Telephone Co., of Peterborough, have recently supplied an instrument for the benefit of persons with defective hearing. The receiver has an ear trumpet attachment which has proved an entire success.
- The Ontario Government has incorporated the Toronto Telephone Company with a capital stock of \$250,000. The promoters are: Alex. Nelson, Abner Nelson, Toronto; W. Travers, Paris; John Ritchie, jr., and Louis Gibson Harris.
- ✓ The Standard Electrical Company, of Ottawa, is the name of a new organization which is applying to the Ontario Legislature for incorporation with the object of producing, selling and supplying electricity for purposes of light, heat and power.
- New buildings are being erected at New Westminster, B. C., for the electric lighting plant, which will be owned and operated by the city. The building has been planned with a view to increasing the plant and power in future as required, and is situated at a convenient distance to blow in for fuel the refuse from one of the large saw mills.
- The Bell Telephone Company is said to have issued a writ against the Brantford Electric Light Company, claiming \$5,000 damages for erecting its poles and wires in such a way as to endanger the property of the telephone company and its subscribers, and asks for an injunction to compel the removal of the electric light wires to a proper position.
- ✓ The specifications drawn up by the Toronto City Council as the basis upon which tenders will be received for the privilege of operating the street railway system, provides that an electric, cable or other new system of motor, or a combined system recommended by the City Engineer, and approved of by the Council as suitable, is to be introduced at once and used, at least on the main lines, within two years.
- Messrs. Henderson Bros., of Montreal, have applied to the Quebec Legislature to incorporate the Ries Electric Traction & Brake Company, of Canada, with a capital stock of \$1,000,000, with the object of largely increasing the traction of railway locomotives, and for the operation of locomotive and train brakes, head lights, and train lighting. Very successful tests of the Ries invention have been made in the United States.