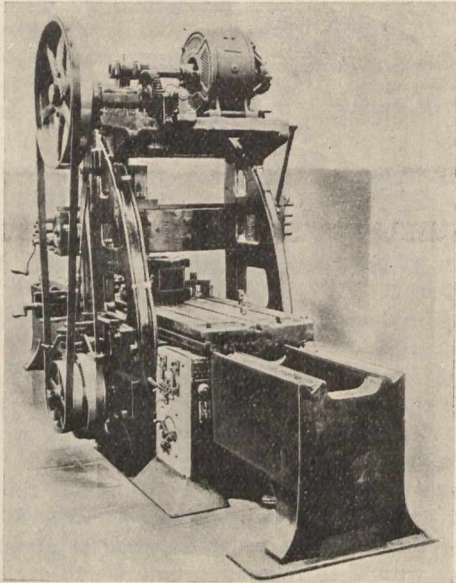


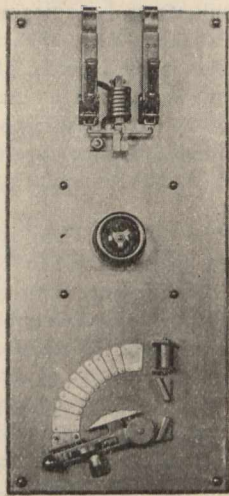
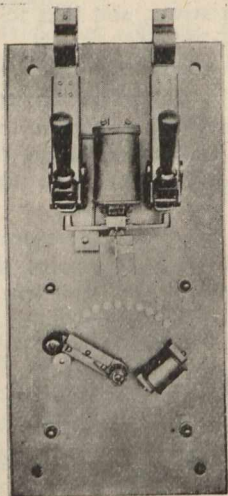
MOTOR-STARTING PANELS WITH CIRCUIT BREAKERS.

One of the recent changes in electrical practice is the general adoption of switchboard panels containing the control apparatus for individual motors. Before their introduction, and in those installations where they are not yet used, controlling rheostats, line switches and protective devices have been mounted in the most convenient place available, often with apparent disregard of fire risk or the protection of the operator. The use of a panel insures the proper mounting of the apparatus, and provides a neat and convenient arrangement, with means for mounting in any desired location.



32 x 32 x 10 Planer, Operated by 5-h.p. Type S Motor. Shop of Union Pacific R.R., Omaha, Neb.

The accompanying illustrations show two of the styles of starting panels for direct current motors, designed by the Westinghouse Electric and Manufacturing Company, and employing a two-pole Type D circuit breaker instead of the customary switch with fuses. The circuit breaker is especially adapted for this use, as one pole is connected in each leg of the circuit, the poles closing independently but tripping simultaneously. In closing the circuit, if there is an overload upon the line, the pole first closed opens immediately upon closing the second thus instantly interrupting the circuit and preventing damage. It is strongly built, with few parts, none of which is small. It is provided with hinged, movable contacts of the brush type, and with carbon tips, to which the current is shunted when the circuit is broken, preventing sparking at the contacts. The circuit is fully broken at the contacts before there is any movement of the carbon tips. There are no springs except the strong strip of spring steel which carries the carbons, the blow of the armature tending to open the breaker, and not simply



Special D.C. Switchboard. Switchboard, Panel Type, D.C.

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to release the moving parts. The device is reliable in its action, and is adjustable for different loads. These panels, with circuit breakers, are furnished in two styles: those with field rheostats for motors requiring shunt field regulation for varying speed, and those without field rheostats for constant speed motors. Since the field and starting rheostats accompany the motors, the price of the panel includes only the mounting of the rheostats. A starting rheostat with minimum voltage release is generally employed with Westinghouse motors. As soon as the supply circuit is interrupted, the rheostat automatically opens the circuit, making it impossible to damage the motor by restoring full line potential to the circuit when the motor is at rest.

These panels are especially adapted for separate machine tool drive, being so designed as to permit mounting directly on the frame of the machine tool driven by the motor as shown in the accompanying illustrations.



PROGRESS IN PEAT.

In our February number of last year a description was given of the peat fuel industry in Canada, illustrated with cuts of some of the Dobson patented appliances, which had been in successful commercial operation for three years.

During the year 1904 progress has been made by Mr. Dobson and his associates in the formation of the Montreal and Ottawa Peat Company of Ottawa, and in the construction of a plant on the company's property, situated on the line of the C.P.R., between Montreal and Ottawa, which is intended to supply the Montreal market with a superior class of fuel. The railway company having granted station privileges at this point, the name "Dobson" was given it. The plant was erected by Mr. Dobson for the company, and has a capacity of fifty tons of fuel per day of twenty hours' run. Work was begun in May under the superintendence of Mr. Dobson, and by the end of September a well-equipped plant was in operation, which was tested, and proved its success in producing a superior quality of fuel. As the time for harvesting operations was past, nothing was attempted in the way of making fuel further than to satisfy those interested of the efficiency of the equipment and the character of the fuel, a carload having been shipped to Ottawa for the use of the directors and their friends, which gave great satisfaction. The plant is ready for a full season's run as soon as the frost is out of the ground.

During the summer a considerable time was spent in locating peat deposits from which Winnipeg might be supplied. The result was that two very good beds were found, and the Manitoba Peat Company, of Winnipeg, has been organized, with abundant capital to build plants and sell the product in the West. The first plant will be erected at Fort Frances, and material and machinery have already been purchased, and it is expected the plant will be running by the middle of the summer, and a considerable quantity of fuel put upon the market in Winnipeg for the next autumn and winter. The high price of coal in Manitoba—\$11 and upwards per ton—and the large number of air-tight stoves used for domestic heating in Manitoba should combine to give a favorable chance to a native fuel industry there. In the Toronto market peat fuel is sold at \$4.25 per ton against \$8 per cord for hard wood. We understand that the peat of the Ottawa beds and of Manitoba has only about 4 per cent. of ash, against 12 per cent. in the product now in the market in central Ontario.



A new clam-canning plant has been installed at Sidney Inlet, Vancouver, with an output of 100 cases a day.

The Montreal Land and Improvement Co. will erect a block of thirty houses, comprising fifty dwellings, for the workmen of the Angus Shops. It will be built in Alexandra Park, adjoining the Angus shops.

An automobile and power launch manufactory, equipped with the latest and best machinery, is to be ready for business within three months at Victoria, B.C. This is the first factory of its kind to be established in Western Canada.