usual method adopted, viz., travelling derrick and clam shell bucket. A force of 12 men was formerly required to unload a 400 ton scow in 22½ hours. This is now accomplished by the scraper, with the assistance of two men, in 10 hours. From the receiving hopper the coal passes through a grizzly where everything over 18 ins. is retained until sledded down to that size. It is then conveyed by means of a bucket elevator to the jig screens which separate out the slack and nut into their respective chutes, whilst the lump passes forward on a flight conveyer to the adjustable distributor chutes. These chutes are hung from circular trackage from the ceiling so that they can be adjusted horizontally and and vertically. The coal is piled towards the front as shown in plan and as the pile increases the different sections of the chute are cast loose until such time as the coal piles back to the last section. These chutes are provided with retarding gates faced with rubber cushions to prevent breakage. When chutes are set at correct angle and retarding gates in operation practically no breakage takes place. On account of its friable nature, however, in the entire re-handling considerable slack is formed subsequent to the first screening at the pit mouth, and this slack was formerly disposed of at greatly reduced value.

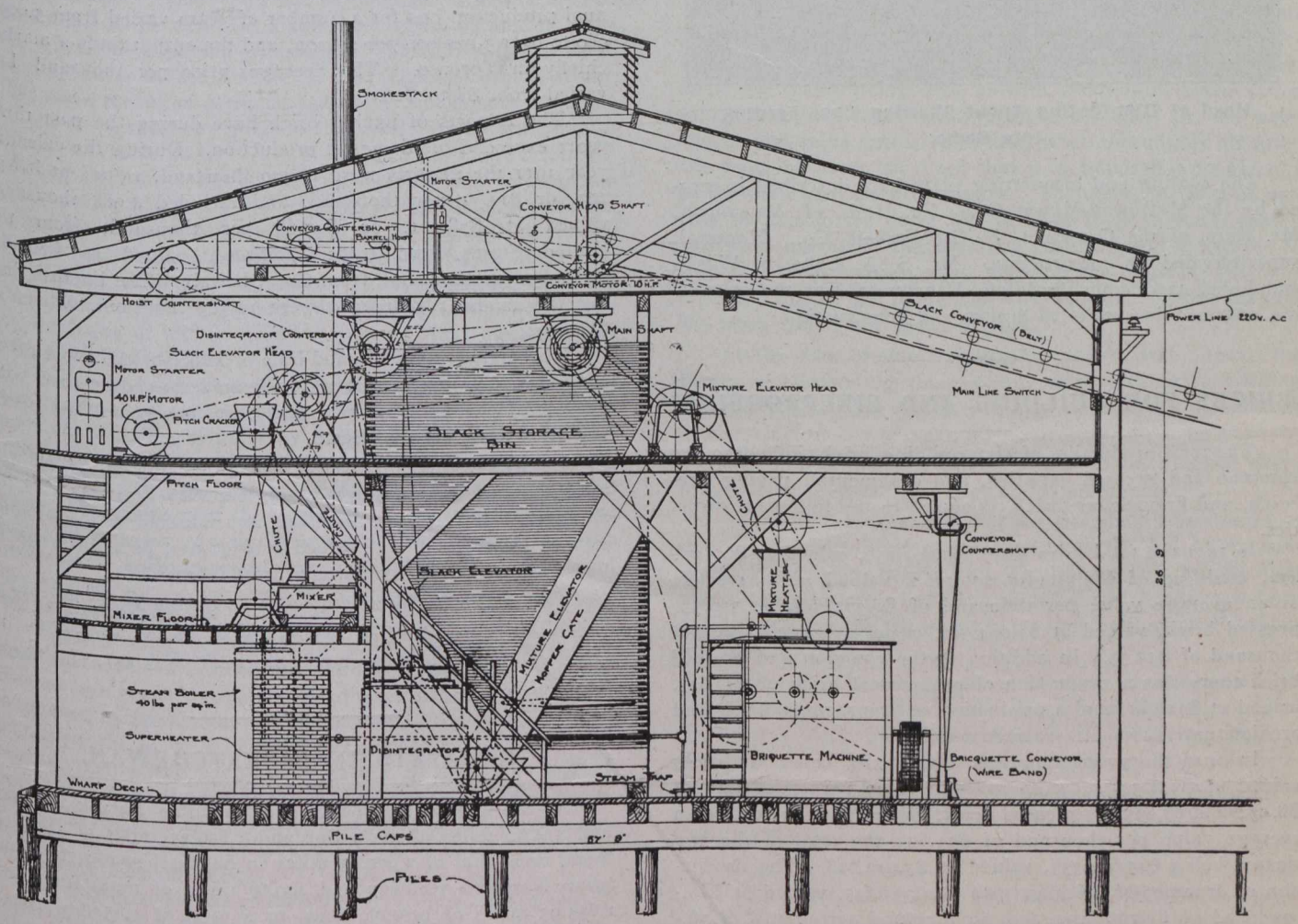
The percentage of slack on the scow runs (according to the stage of the tide at time scow is loaded) from 12 to 25% from tests made by careful hand screening, whilst after passing through the unloading and mechanical screening plant it is about the same, showing that the unloading and screening is not productive of further breakage.

The total number of men employed unloading and screening is three. Formerly the men sacking did the screening, also now only half the number are employed sacking, the coal being taken direct from the pile on floor.

The slack chute discharges on to a 12-in. belt conveyer which takes it to a slack storage bin of 50 tons capacity in the briquetting shed. Here it is fed through a hopper as required to a bucket elevator.

The briquetting plant was manufactured by Yeadon and Sons, of Leeds, England, and is arranged as shown in plan and elevation.

The slack is conveyed by the bucket elevator to the mixer, whilst on the floor above the mixer is stored the pitch, and here is located the pitch cracker, so that the cracked pitch also falls into the mixer where it is fed on to the slack by an adjustable screw feed, regulated to give the correct percentage. From the mixer the product falls into the disintegrator. The mixture is then elevated into a vertical heater which is jacketed, and into which jacket steam, superheated to 360° F. at 40 lbs. pressure, is introduced. The mixture in the heater is constantly stirred by mechanical means so as to obtain a uniformly heated product and is then fed to the rolls of the press which turn out a briquette of an ovoid form weighing about 5½ ozs. each. These drop on to a wire band conveyer long enough to remove them clear of the plant, where they are received into wheelbarrows and spread over the cooling floors. Here they remain for 24 hours before being sacked. A small vertical boiler with separate bricked in superheater is used for supplying steam. The pitch used in the manufacture is coal tar pitch and amounts to 6% of the finished product for this particular coal. All the machinery is electrically driven by 220 volt three-phase induction motors.



Section at Elevation of Briquetting Plant on Line X-X of Plan.