passed on, after being loaded, to the continuation of the track beyond.

The operation of loading is very simple. After the car is locked on, one end of the platform is tilted down (as illustration No. 2) and the coal is run into the car, by means of a chute from the bunkers above, until the lower half is loaded. The car is then brought back to a horizontal position and, whilst the coal is still running in, it is slowly tilted in the opposite direction. The tilting is continued up to the maximum of about 35 degrees, at which the car is held (as illutration No. 3) until fully loaded. The exercise of care in tilting the second end will prevent much of the coal from running down from the end first loaded when the other end of the car is lowered for filling.

the semi-circular rim at the bottom is a horizontal hydraulic cylinder, which is movable longitudinally and has each end attached to the opposite side of the rim by a wire rope which circumscribes the rim from the bottom to near the top, where it is attached. By means of a moderately high pressure pump and a fourway cock water is forced into corresponding ends of the cylinders and allowed to escape from the other ends. The cylinders thus travel longitudinally and, by means of the wire rope, cause the sides of the cradle to roll upon the supporting rollers and the platform to tilt. To handle box cars of 80,000 lbs, capacity requires a water pressure of 250 lbs, per square inch, the cylinders being 13 inches in diameter.

The car loader described above is in use at the



No. 2.-Smith Gravity Hydraulic Box Car Loader.

When the car is loaded it is brought back to the horizontal and moved off the platform, which is then ready to receive another empty car.

The loader is substantially constructed, necessarily so since it has to carry up to 60 or 70 tons weight at a time. The platform is supported by vertical sides, each of which is a sector of a circle, the centres being eight feet above the track and the arc 150 degrees long. The combination of platform and sides is called the cradle. These semi-circular sides have tires or rims of railway T rail and they are supported by cast rollers. The rollers, two on each side of the cradle, are spaced 60 degrees apart, 30 degrees each side of the vertical. On each side of the cradle and tangent to Crow's Nest Pass Coal Company's Morrissey colliery, where all the equipment of plant and machinery is modern and has been provided in the expectation that the development here during the next year or two will admit of a comparatively large output of coal being regularly maintained. At present the producing capacity of the five mines, all situate on the north side of Morrissey Creek, now in operation is from 800 to 1.000 tons per diem. These mines are about five miles up the creek from Morrissey Junction, a station on the Canadian Pacific Railway Company's Crow's Nest branch nine miles lower down the Elk River from Fernie, at which latter town are the Crow's Nest Pass Coal Company's headquarters in British Colum-

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