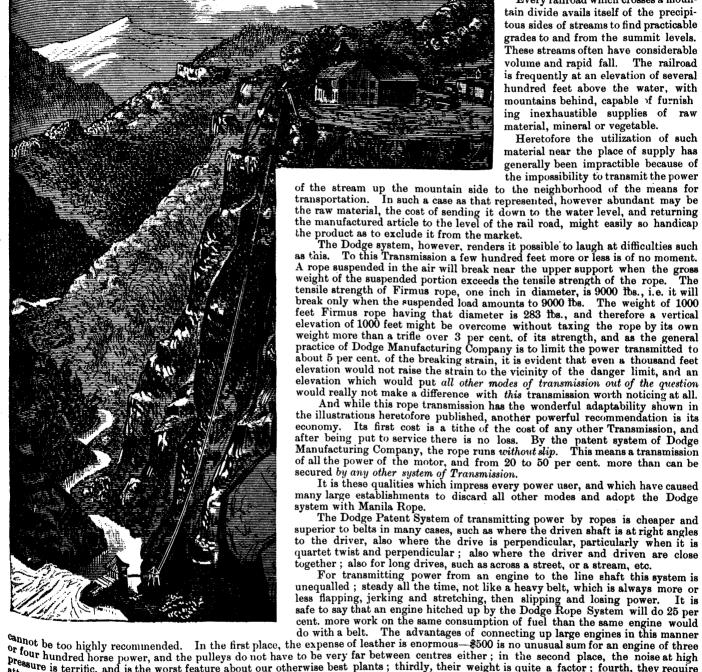
Transmitting Power by Ropes and Grooved Wood Pulleys.

The purpose of this cut is to illustrate the possibility of carrying power upwards to great heights by the patented Dodge System of Power Transmission by Manilla Ropes and Grooved Wood Pulleys. This system will make available many water powers now unutilized.



Every railroad which crosses a mountain divide avails itself of the precipitous sides of streams to find practicable grades to and from the summit levels. These streams often have considerable volume and rapid fall. The railroad is frequently at an elevation of several hundred feet above the water, with mountains behind, capable of furnish ing inexhaustible supplies of raw material, mineral or vegetable.

Heretofore the utilization of such material near the place of supply has generally been impractible because of the impossibility to transmit the power

of the stream up the mountain side to the neighborhood of the means for transportation. In such a case as that represented, however abundant may be the raw material, the cost of sending it down to the water level, and returning the manufactured article to the level of the rail road, might easily so handicap the product as to exclude it from the market.

The Dodge system, however, renders it possible to laugh at difficulties such To this Transmission a few hundred feet more or less is of no moment. A rope suspended in the air will break near the upper support when the gross weight of the suspended portion exceeds the tensile strength of the rope. tensile strength of Firmus rope, one inch in diameter, is 9000 fbs., i.e. it will break only when the suspended load amounts to 9000 fbs. The weight of 1000 feet Firmus rope having that diameter is 283 lbs., and therefore a vertical elevation of 1000 feet might be overcome without taxing the rope by its own weight more than a trifle over 3 per cent. of its strength, and as the general practice of Dodge Manufacturing Company is to limit the power transmitted to about 5 per cent. of the breaking strain, it is evident that even a thousand feet elevation would not raise the strain to the vicinity of the danger limit, and an elevation which would put all other modes of transmission out of the question would really not make a difference with this transmission worth noticing at all.

And while this rope transmission has the wonderful adaptability shown in And while this rope transmission has the wonderful adaptability snown in the illustrations heretofore published, another powerful recommendation is its economy. Its first cost is a tithe of the cost of any other Transmission, and after being put to service there is no loss. By the patent system of Dodge Manufacturing Company, the rope runs without slip. This means a transmission of all the power of the motor, and from 20 to 50 per cent. more than can be secured by any other system of Transmission. It is these qualities which impress every power user, and which have caused many large establishments to discard all other modes and adopt the Dodge

many large establishments to discard all other modes and adopt the Dodge system with Manila Rope.

The Dodge Patent System of transmitting power by ropes is cheaper and superior to belts in many cases, such as where the driven shaft is at right angles to the driver, also where the drive is perpendicular, particularly when it is quartet twist and perpendicular; also where the driver and driven are close

pressure is terrific, and is the worst feature about our otherwise best plants; thirdly, their weight is quite a factor; fourth, they require attention that a rope does not; fifth, it requires a man in the business to put one on right, and sometimes they don't always do it right; sixth

sixth, any deviation out of line of the shafting affects the belt, while it has no effect on a rope. belt, for a boxe points, to say nothing of the first cost, which would be about one thirtieth part of leather, are enough to banish the leather belt, for a boxe points, to say nothing of the first cost, which would be about one thirtieth part of leather, are enough to banish the leather belt. The above points, to say nothing of the first cost, which would be about one unit is an entry of reasons, are chough to entry the set of reasons, are chough to entry the set of the set of

For estimates of cost and all information relating to this system of transmitting power by ropes, apply to the undersigned, who also manufacture the best belt pulleys in the world.

DODGE WOOD SPLIT PULLEY CO.

89 ADELAIDE STREET WEST,

TORONTO.