

(No Model.)

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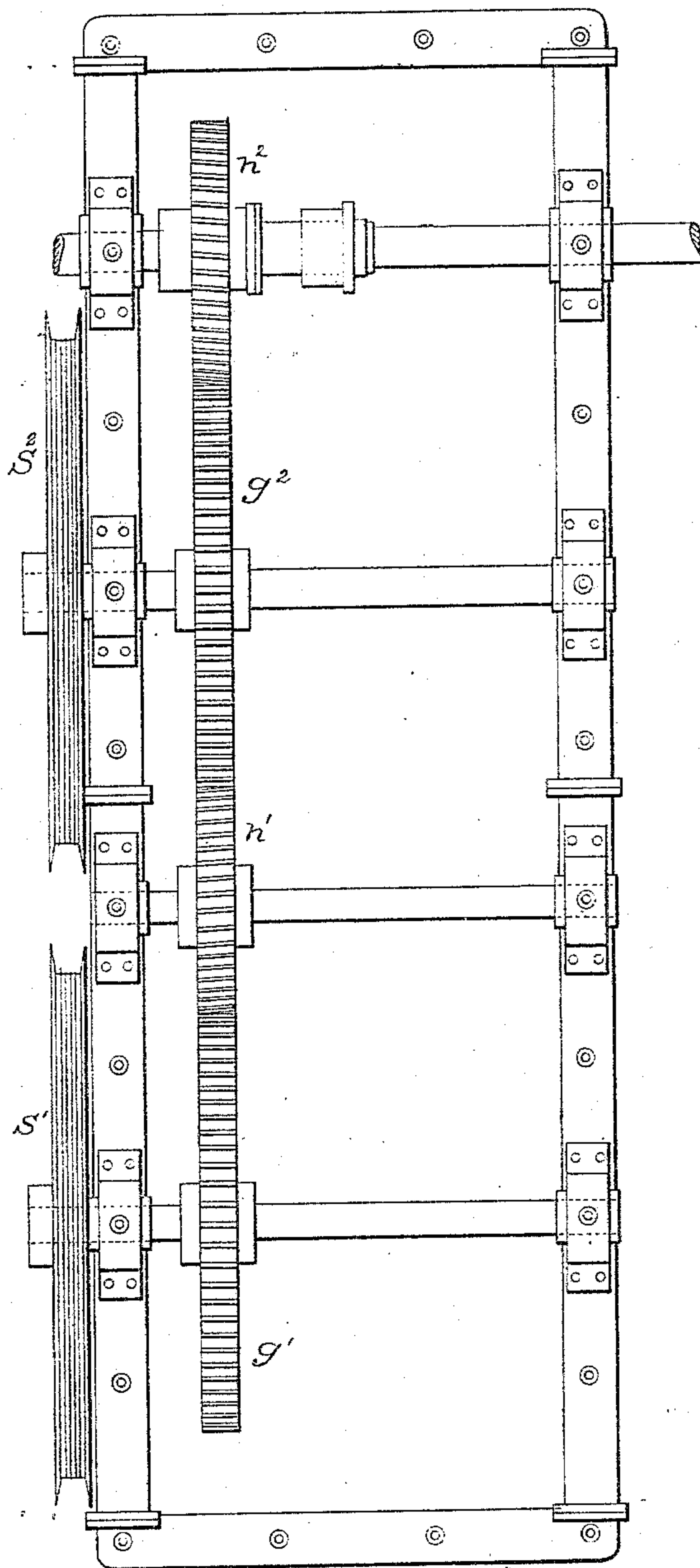
D. J. MILLER.

DRIVING MACHINERY FOR TRACTION ROPE RAILWAYS.

No. 304,017.

Patented Aug. 26, 1884.

Fig. 1



WITNESSES

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(No Model.)

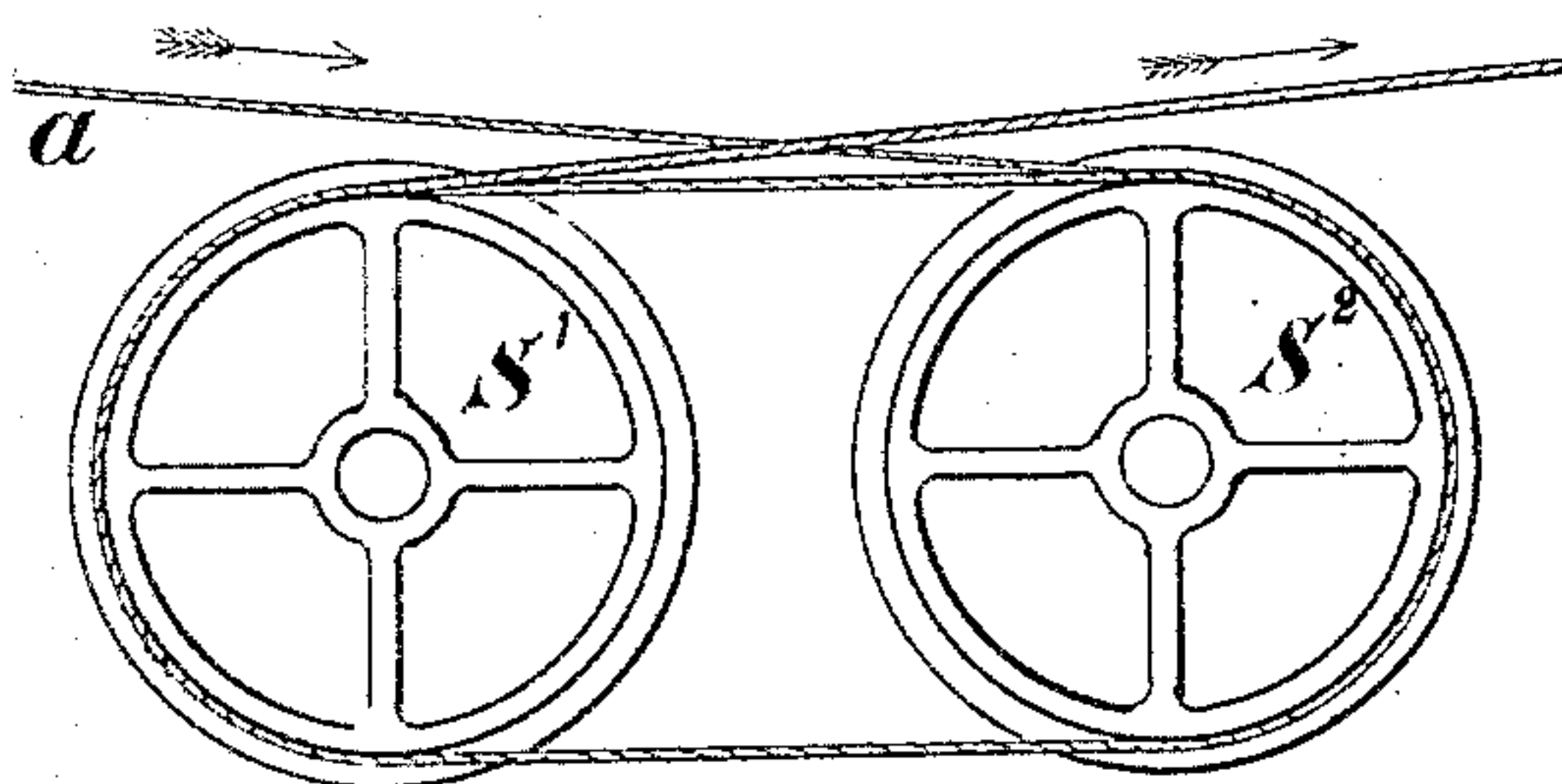
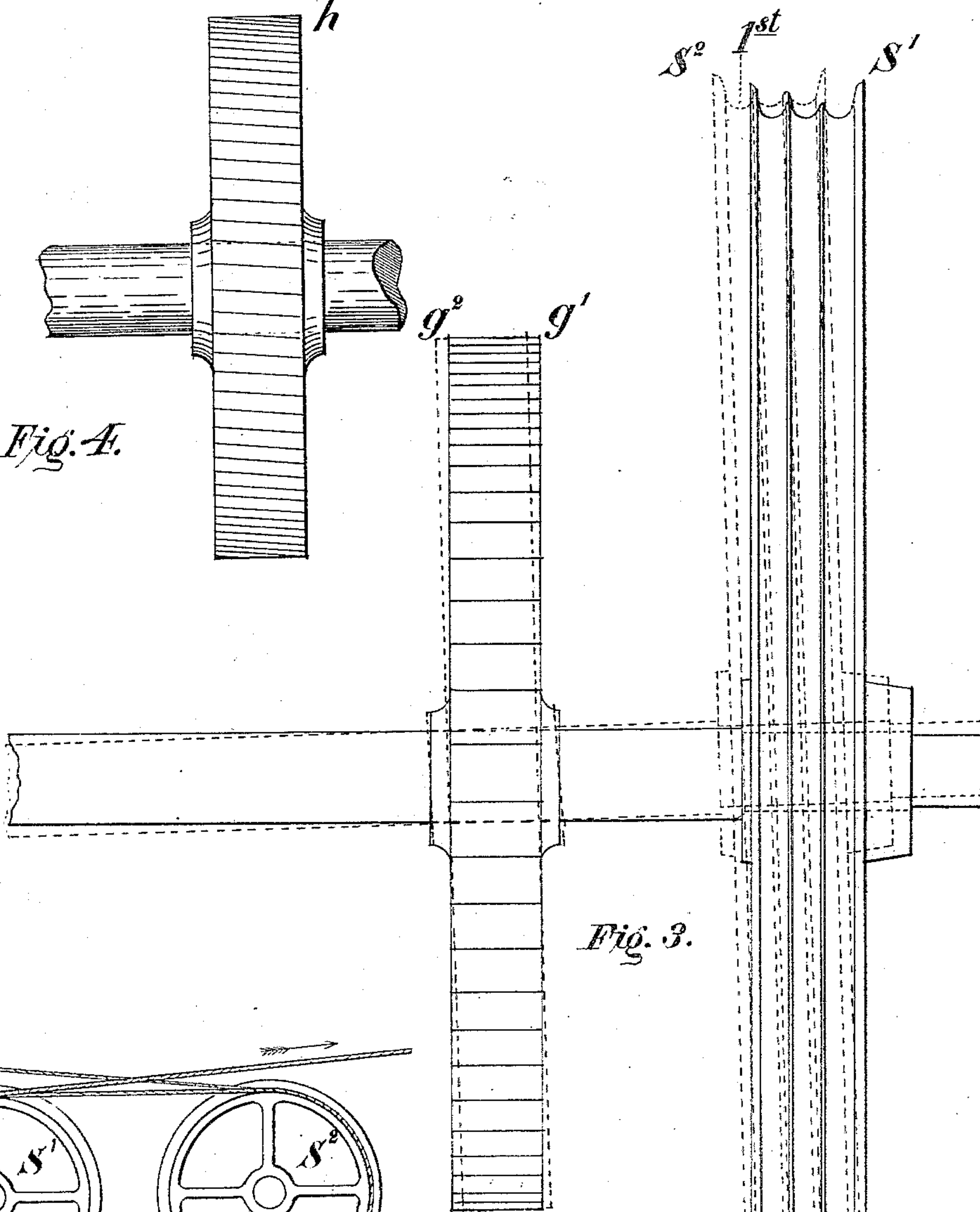
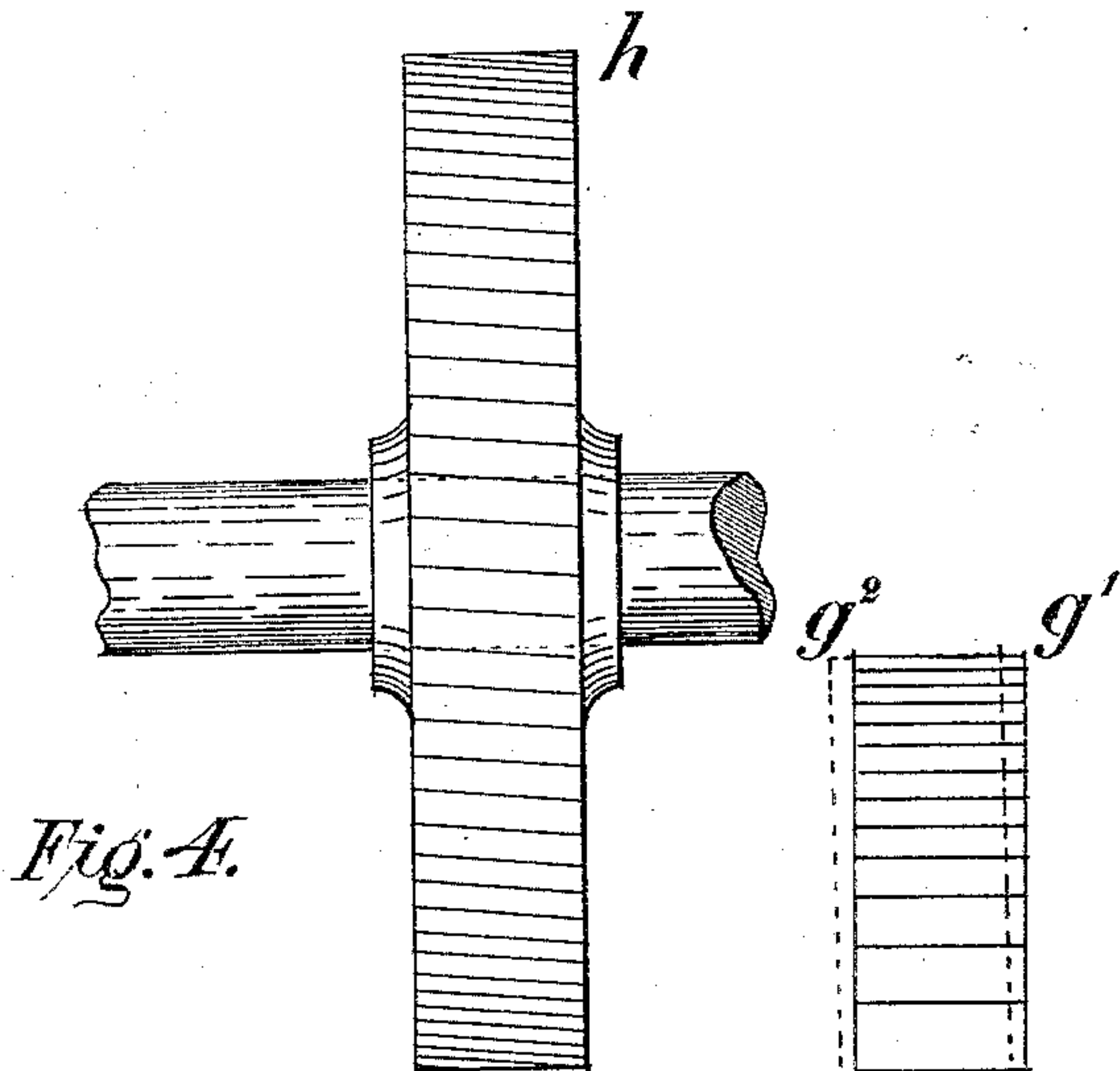
2 Sheets—Sheet 2.

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No. 304,017.

Patented Aug. 26, 1884.



Witnesses.
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DANIEL J. MILLER, OF NEW YORK, N. Y.

DRIVING MACHINERY FOR TRACTION-ROPE RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 304,017, dated August 26, 1884.

Application filed January 25, 1884. (No model.)

To all whom it may concern:

Be it known that I, DANIEL J. MILLER, of the city, county, and State of New York, have made certain new and useful Improvements in
5 Driving Machinery for Traction-Rope Railways, of which the following is a specification.

The invention consists of two driving-sheaves mounted on shafts, each shaft having a driving-gear, said sheaves having several grooves
10 for the traction-rope to run in. The sheaves are tilted in opposite directions, so that the cable is carried from one groove to the next as it passes from one sheave to the other.

The invention consists more particularly in
15 an intermediate gear on a horizontal shaft, the gear having diagonally-arranged or spirally-pitched teeth, to meet the straight teeth of the tilted gears on the sheave-shafts.

The object of this invention is to make both
20 sheaves drivers, and pass the cable direct from one groove to another, and thus have as few bends in the rope as possible, for if but one sheave was a driver and the other an idler, it would be necessary to make twice the number
25 of bends in the rope to produce the same result.

The accompanying drawings form part of this specification.

Figure 1 is a plan of the machinery. S' S^2
30 represent the two sheaves. g' g^2 represent the gears on the driving-sheave shafts, h' the intermediate gear, and h^2 the driving-gear.

Fig. 2 is a side elevation of the sheaves S' S^2 , and shows the direction of the cables as
35 they pass from one sheave to the next.

Fig. 3 is a view of the driving-sheaves, shafts, and gears, the heavy lines representing the first sheave, S' , and the dotted lines representing the second sheave, S^2 .

40 Fig. 4 is an elevation of the intermediate gear, h' , representing the pitch of the teeth.

In Fig. 2, (a side elevation of sheaves,) a represents the cable coming to the sheave. The

cable passes into the first (1st) groove (see Fig. 3) in sheave S^2 , is carried half-way around this
45 sheave, and returns to the first groove in sheave S' , makes half a wrap on sheave S' , and returns to second groove in sheave S^2 . Thus, by continuous wraps on the sheaves, the cable is
50 carried from one groove to the next as it passes from one sheave to another. By having the sheaves tilted in this manner the cables are held on a direct line when passing into the grooves.

It will be seen in Fig. 3 that the sheaves are
55 moved so that the grooves are on a direct line on the bottom, and lap just one groove at the top. The teeth of the gears on the sheave-shafts are kept straight, but the intermediate gear has teeth diagonally arranged, or with a
60 spiral pitch equal to the angle of the sheave-shafts. These shafts being pitched in opposite directions makes the straight teeth of the tilted gears g' and g^2 correspond exactly with the spiral or diagonal teeth of the intermedi-
65 ate gear.

In the plan (Fig. 1) it will be seen that the intermediate gear can be used as a driver, and the gear h^2 can be abandoned should it be
70 deemed preferable to do so.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The intermediate gear having spirally-pitched or diagonally-arranged teeth to operate in combination with the straight teeth of
75 the tilted gears on the driving-sheave shafts, for the purpose specified.

2. The tilted driving-sheaves, with several grooves for the traction-rope, when both
80 sheaves are made drivers and connected by gears, as herein set forth.

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Witnesses:

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