

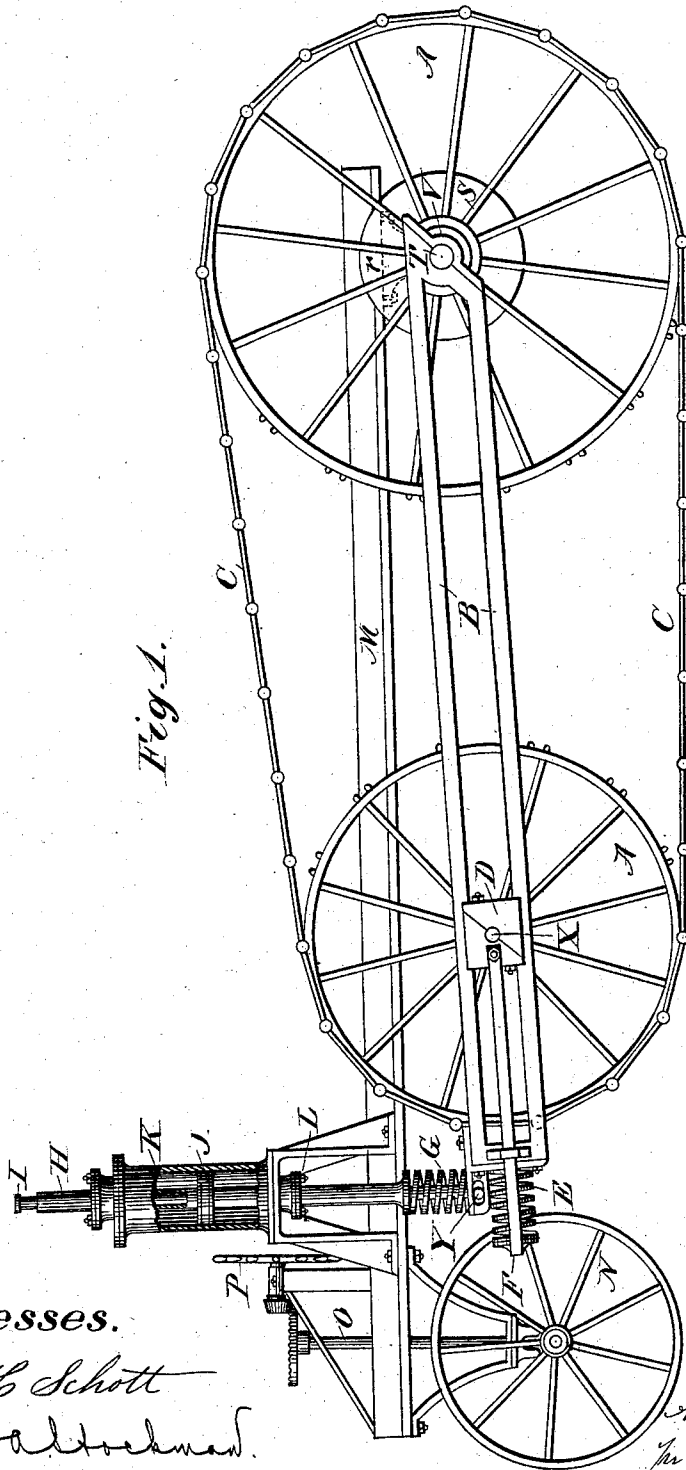
(No Model.)

2 Sheets—Sheet 1.

A. S. HANSCOM.  
TRACTION ENGINE.

No. 270,308.

Patented Jan. 9, 1883.



*Fig. 1.*

*Witnesses.*

*F. H. Schott  
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*Inventor.*

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per C. H. Watson & Co. attys.*

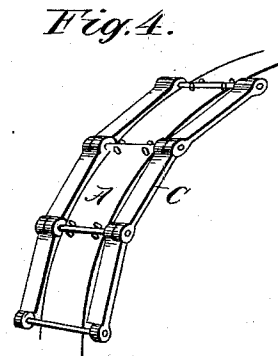
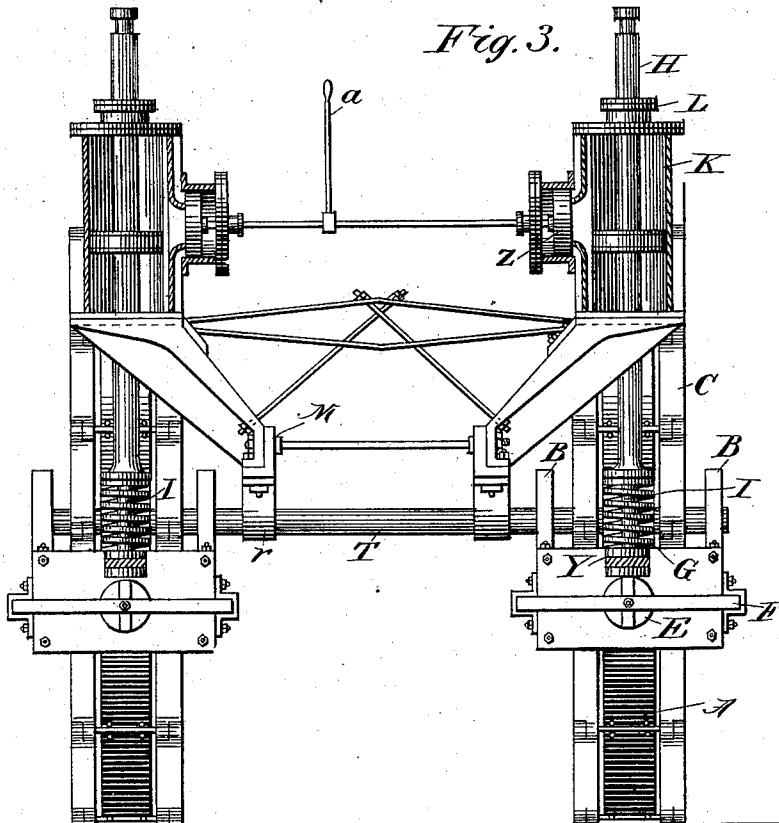
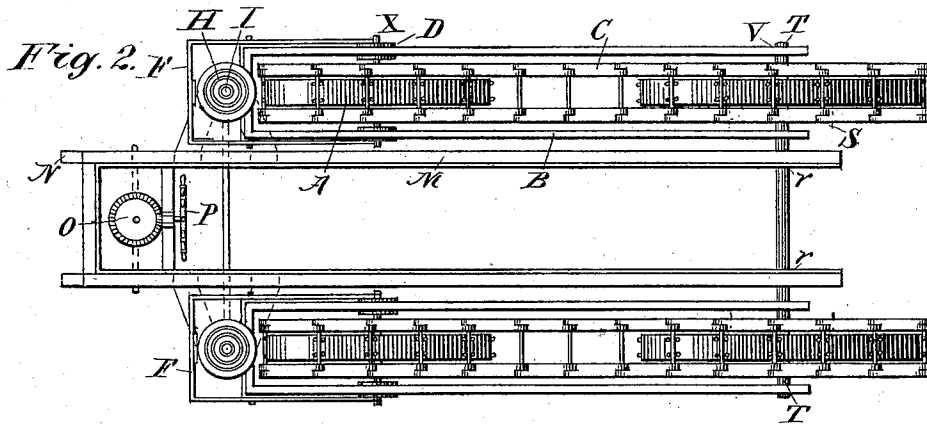
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2 Sheets—Sheet 2.

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Witnesses.

*H. H. Schott.*  
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# UNITED STATES PATENT OFFICE.

ALBERT S. HANSCOM, OF MOORHEAD, MINNESOTA.

## TRACTION-ENGINE.

SPECIFICATION forming part of Letters Patent No. 270,308, dated January 9, 1883.

Application filed August 3, 1882. (No model.)

To all whom it may concern:

Be it known that I, ALBERT SMITH HANSCOM, a citizen of the United States, residing at Moorhead, in the county of Clay and State of Minnesota, have invented certain new and useful Improvements in Traction Attachments for Road-Engines, of which the following is a specification, reference being had to the accompanying drawings, in which like letters are used to designate like parts in the several views.

Figure 1 is a vertical side elevation of a road-engine embodying my improvements. Fig. 2 is a plan or top view. Fig. 3 is an end view, partly in section. Fig. 4 is a perspective detail of a portion of the tire of a drive-wheel with the track or chain in position thereon.

In carrying my invention into effect I employ four drive-wheels, A, two of which are so arranged that they can be raised or lowered at pleasure. Power is applied to the forward drive-wheels by means of a chain, C, that also acts as a track or road-bed for the forward and rear wheels to run upon, the object being to secure a broad bearing that will not be liable to sink into soft ground.

The drive-wheels A A on each side are connected by a horizontal frame composed of the bars B B, the rear ends of which are provided with bearings V V for the rear axle, T, which turns therein. The front axle, X, turns in blocks D D, which slide horizontally in the space between the bars B B, and are held in place therein by means of bars F F. Within the space inclosed by the bars F and ends of the bars or frames B are arranged spiral springs E E, which keep the track-chains C C at a proper tension, whereby breakage of the said chains from encountering obstructions is obviated.

M is the main frame, swinging on the rear axle, T, at *rr*. At the forward end of this frame are vertical steam-cylinders K K, which are fitted with hollow piston-rods H H, that pass through stuffing-boxes L L and carry pistons J J. At the bottom of the piston-rods H H, between them and the frames B, are spiral springs G G, which surround the lower ends of rods I I, that pass through the hollow piston-rods. These rods I I are fixed to the

frames B at Y Y, and are shouldered at their upper ends, as shown in Figs. 1 and 3.

N N are forward wheels for guiding the machine. These wheels are capable of being turned at pleasure by means of a pilot-wheel, P, which is geared to the vertical center-pin O, as shown in Fig. 1. In turning the engine steam is admitted into the lower ends of the cylinders K K by means of suitable valves, Z Z, Fig. 3, that are controlled by a lever, a, so as to raise the piston-rods H H until they strike the shoulders forward on the upper ends of the rods I I. The rods H and I, being thus raised together, will lift the forward drivers A A from the ground, so that by operating the wheels N through the pilot-wheel P the machine may be readily turned in the desired direction. When turned sufficiently the wheels N N are fastened in line with the driving-wheels A A, and steam being admitted into the upper ends of the cylinders K will cause the forward drivers to be lowered. On admitting more steam to the upper ends of the cylinders the piston-rods H H are forced down, thereby compressing the springs G G, and upon still more pressure being exerted on the pistons the forward end of the frame M, together with the guiding-wheels N N, will be raised, thus throwing the entire weight of the machine on the driving-wheels.

To the frame M may be fastened the boiler and engine used for propelling the machine, and the power may be applied to the rear axle, T, which is provided with ratchets S S, by means of any suitable chain or gear.

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

1. In a traction attachment for road-engines, the combination of the driving-wheels A A, frames B B, track-chains C C, and tension-springs E E, substantially as shown and described.

2. In a traction attachment for road-engines, the combination of the cylinders K K, piston-rods H H and I I, and springs G G for raising the guide-wheels and throwing the entire weight of the machine on the driving-wheels, substantially as described.

3. In a traction attachment for road-en-

gines, the combination of the driving-wheels  
A A, connected by a track-chain, C, the frames  
B B and M, axles T and X, the sliding blocks  
D D, bars F F, and springs E E for regulat-  
5 ing the tension of the track-chain, the guid-  
ing-wheels N, carried by the forward end of the  
frame M, and means for raising said frame and

guiding-wheels, whereby the entire weight of  
the machine is thrown on the driving-wheels,  
substantially as shown and described.

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Witnesses:

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MINNIE A. COLTON.