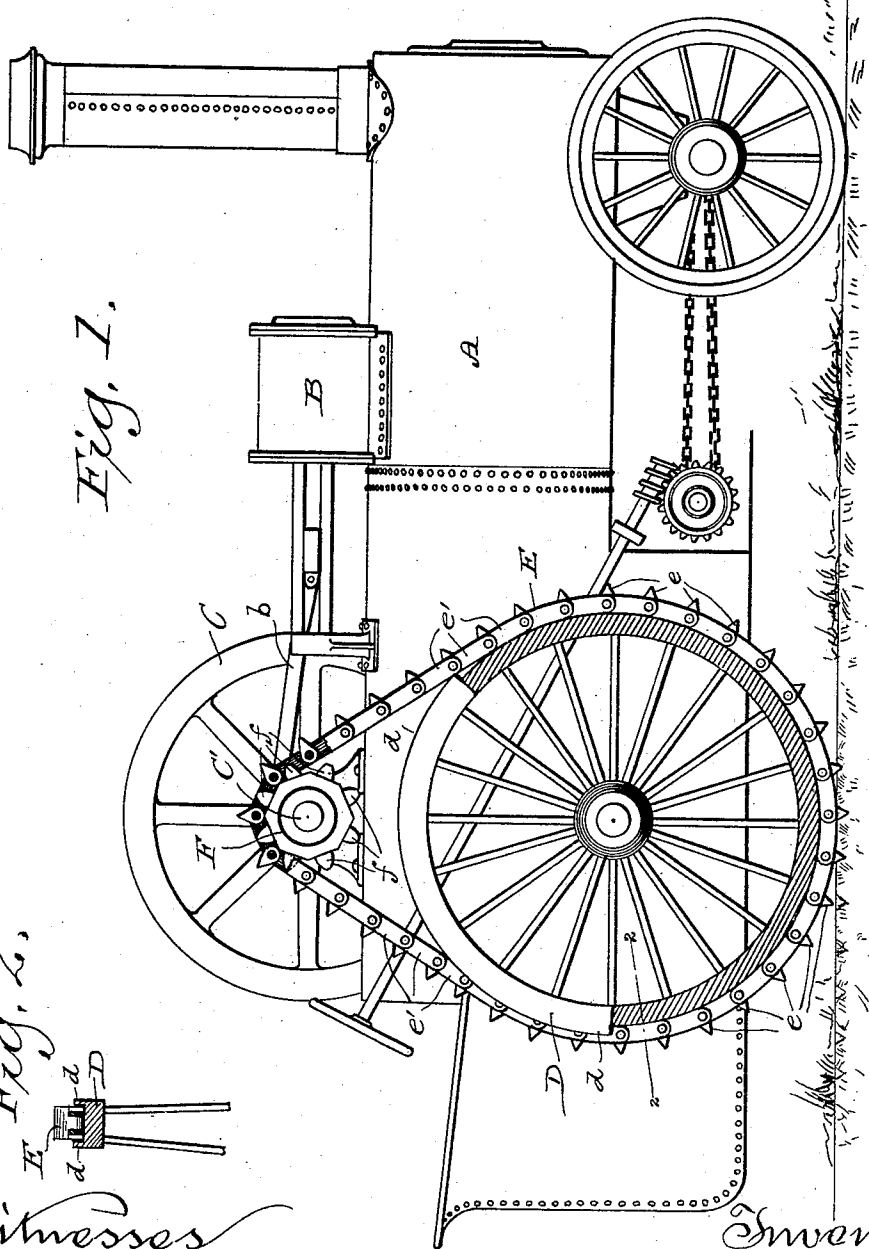


(No Model.)

D. S. STEWART.
TRACTION ENGINE.

No. 484,830.

Patented Oct. 25, 1892.



Witnesses
Geo. W. Young.
John E. Miles

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UNITED STATES PATENT OFFICE.

DAVID S. STEWART, OF MORRIS, WISCONSIN.

TRACTION-ENGINE.

SPECIFICATION forming part of Letters Patent No. 484,830, dated October 25, 1892.

Application filed May 23, 1892. Serial No. 434,016. (No model.)

To all whom it may concern:

Be it known that I, DAVID S. STEWART, a citizen of the United States, and a resident of Morris, in the county of Slawano, and in the State of Wisconsin, have invented certain new and useful Improvements in Traction-Engines; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to new and useful improvements in traction-engines; and it consists in the matters hereinafter described, and pointed out in the appended claims.

The object of my invention is to provide an improved form of traction mechanism for traction-engines that shall be at once simple and strong in construction and easily applicable to traction-engines of various makes or styles with but slight modification in the construction or arrangement of the working parts of the same.

The various features of my invention will be more fully hereinafter described with reference to the accompanying drawings, in which—

Figure 1 is a side elevation of a traction-engine embodying my invention and showing one side of the traction-wheel as broken away to better illustrate the arrangement of the operating parts. Fig. 2 is a detail sectional view of a portion of the traction-wheel taken on line 2 2 of Fig. 1.

In said drawings, A represents the boiler of any ordinary traction-engine; B, the cylinder of the driving-engine; C, the fly-wheel of the same mounted upon the usual crank-shaft C', to which the pitman *b* is connected in the ordinary manner.

D represents the traction-wheel, to which power is transmitted to propel the engine forward over the ground; E, a traction-chain passed around the lower part of the periphery of said traction-wheel and passed over a suitable sprocket-pinion F, which is mounted directly upon the crank-shaft. Any desired form of traction-chain may be employed; but I prefer to use a chain of substantially the construction illustrated in a former application filed by me on December 21, 1891, Serial No. 415,711, in which the said chain E is provided with projecting teeth *ee*, adapted to cut into the surface of the ground, and with

intermediate open links *e' e'*, adapted for engagement with the teeth *ff* of the sprocket-pinion F, as illustrated in the drawings. The periphery of the traction-wheel D is provided with projecting flanges *d d*, located at opposite edges of the face of said wheel and between which the traction-chain E is arranged, the inner surfaces of the links of said chain being made flat for engagement with the surface of said wheel between the flanges *d d*.

In adapting the traction-wheels of an ordinary traction-engine for the application of a traction-chain of this construction flanges may be applied to the peripheries of said wheels in any desired manner, as by shrinking, and the sprocket-pinion F applied to the end of the crank-shaft directly.

The arrangement of the sprocket-wheel F and the traction-chain E, as before described, are such that any dirt, snow, or ice which adheres to the links of the said chain after they leave the surface of the ground will be pushed out of said links by the teeth of said pinion as the links pass over the same, thereby keeping the chain clean and free from dirt.

It will be seen that my improvements may be very readily applied to various makes and styles of traction-engines with very little modification in the construction and arrangement of the operating parts of the same, and that by said improvements I am enabled to provide a very simple, cheap, effective, and strong traction mechanism, which is not liable to get out of order.

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

1. The combination, with the traction-wheels of a traction-engine, of a traction-chain passed around the lower part of the peripheries of said wheels and suitable actuating gears mounted directly upon the crank-shaft of the engine and adapted for engagement with said chains, substantially as described.

2. The combination, with the traction-wheels of a traction-engine, of traction-chains passed around the lower part of the peripheries of said wheels, said chains comprising links provided with projecting teeth and with openings between said teeth, and suitable actuating-gears mounted directly upon the crank-shaft of the engine and adapted for engage-

ment with the said links, substantially as described.

3. The combination, with the traction-wheels of a traction-engine, of traction-chains
5 passed around the lower parts of the peripheries of said wheels, flanges on said wheels, between which said chains are arranged to run, and suitable actuating-gears mounted
10 directly upon the crank-shaft of the engine and adapted for engagement with the teeth

of said traction-chains, substantially as described.

I testimony that I claim the foregoing I have hereunto set my hand, at Morris, in the county of Shawano and State of Wisconsin, 15 in the presence of two witnesses.

DAVID S. STEWART.

Witnesses:

J. SWENHOLT,
H. J. SPRAGUE.