(No Model.) 3 Sheets—Sheet 1.

O. W. KELLY & L. F. DIETER.

TRACTION WHEEL.

No. 342,606. Patented May 25, 1886.

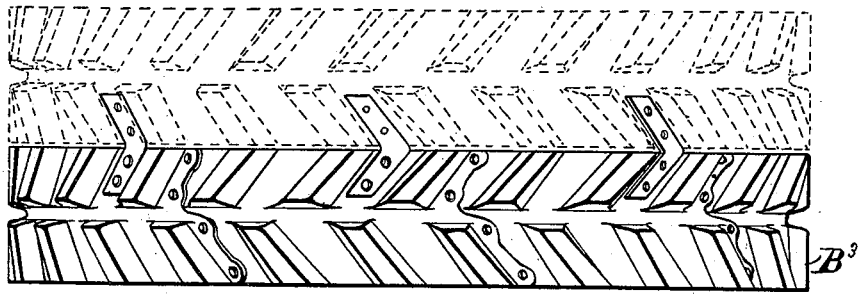

Fig. 2.

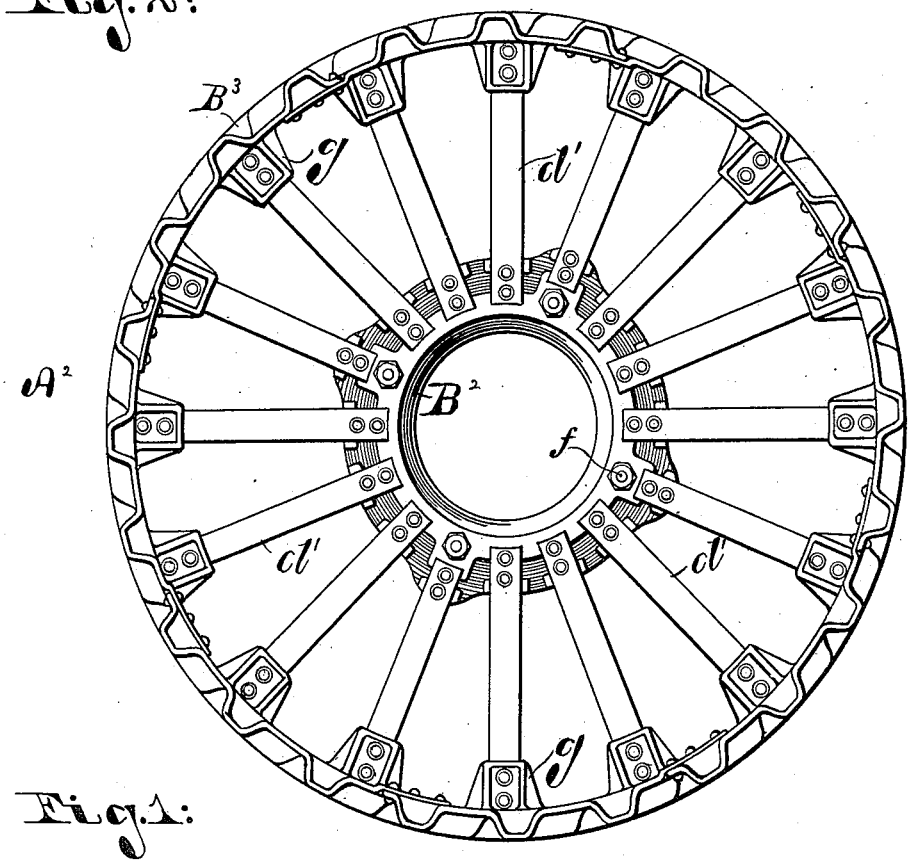

Fig. 1.

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H. L. Tessendier.

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By Chas. F. Stoddard

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(No Model.) 3 Sheets—Sheet 2

O. W. KELLY & L. F. DIETER.

TRACTION WHEEL.

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Fig. 3:

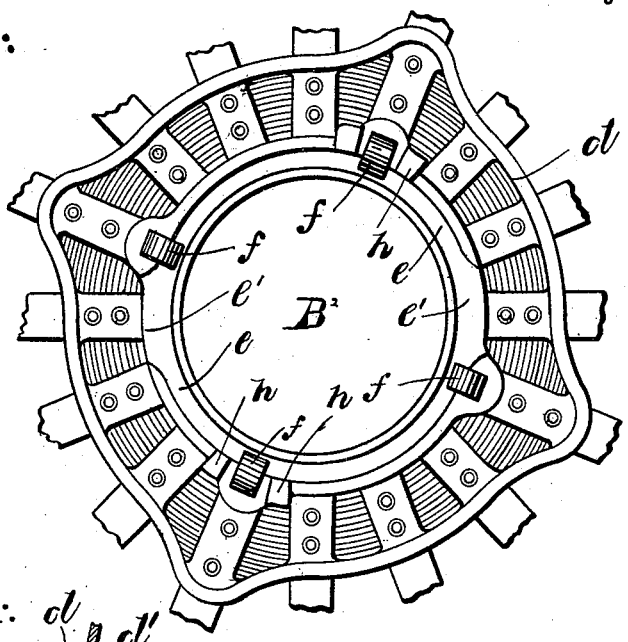
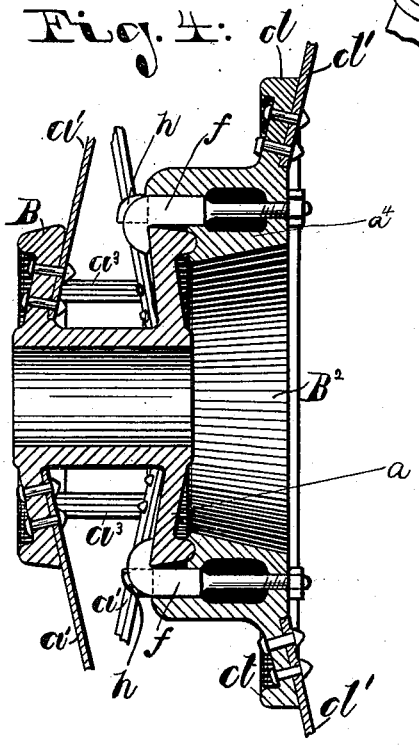


Fig. 4:



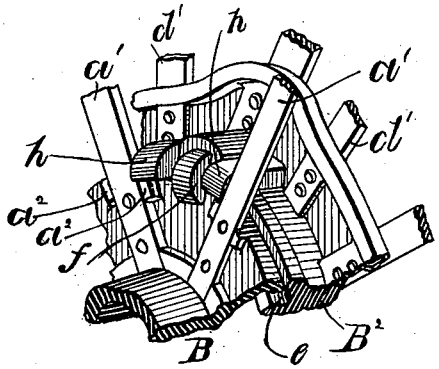


Fig. 5:

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(No Model.) 3 Sheets—Sheet 3.

O. W. KELLY & L. F. DIETER.

TRACTION WHEEL.

No. 342,606. Patented May 25, 1886.

Fig. 6:

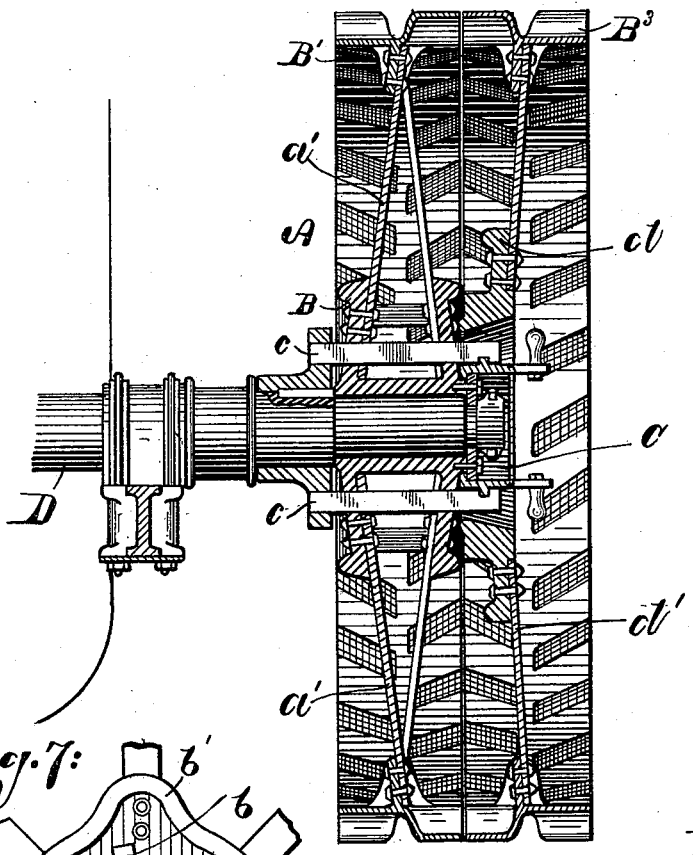


Fig. 7:

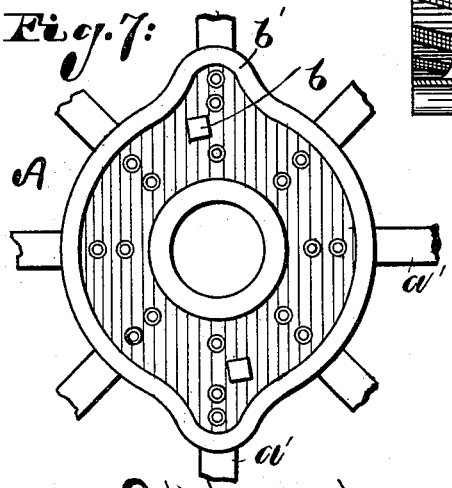
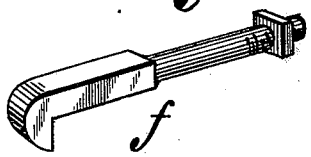


Fig. 8:



Attest:
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H. L. Torrendee

Inventors:
Oliver W. Kelly
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By Paul A. Staats
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UNITED STATES PATENT OFFICE.

OLIVER W. KELLY AND LOUIS F. DIETER, OF SPRINGFIELD, OHIO, ASSIGNORS TO THE SPRINGFIELD ENGINE AND THRESHER COMPANY, OF SAME PLACE.

TRACTION-WHEEL.

SPECIFICATION forming part of Letters Patent No. 342,606, dated May 25, 1886.

Application filed March 10, 1886. Serial No. 194,688. (No model.)

To all whom it may concern:

Be it known that we, OLIVER W. KELLY and LOUIS F. DIETER, citizens of the United States, residing at Springfield, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Traction-Wheels, of which the following is a specification.

Our invention relates to improvements in wheels for traction-engines.

The object of our invention is to provide a traction-wheel, the width or tread of which is adapted to be extended by means of a supplementary wheel secured thereon.

Our invention consists in the combinations and constructions of parts hereinafter described and claimed.

In the accompanying drawings, Figure 1 is is a side elevation view showing the supplementary wheel adapted to be secured to the main wheel for increasing the breadth of the tread. Fig. 2 is a plan view of the same, the main wheel being shown in dotted lines thereon. Fig. 3 is a side elevation of the hub of the supplemental wheel, showing the hooked-shaped bolts for securing it in place. Fig. 4 is a vertical sectional view of the hub of the main and supplemetal wheels secured together. Fig. 5 is a detailed view in perspective showing the method of securing the supplemental wheel to the main wheel. Fig. 6 is a vertical sectional view of the main and supplemental wheels placed upon the axle of a traction-engine. Figs. 7 and 8 are detailed views referred to hereinafter.

In the accompanying drawings, A represents the main wheel, which is composed of the hub B and a tire, B′. The hub B is provided on either side with a flange, *a*, and is connected to the tire B′ by means of the spokes *a′*, which extend from either side of the hub to the tire B′. The spokes *a′* are adapted to be secured on the inside of the flanges *a*, which are preferably provided with small projections a^2 on the inner face thereof, between which the spokes *a′* are adapted to rest.

In order that the hub B may be constructed as light as possible, the flanges *a* are connected together at suitable intervals by cross-pieces a^3, which extend from one flange to the other, and each of said flanges is provided on the outer face near the periphery thereof with a rib or bead, a^4. The rim or tire B′ of the wheel we preferably make sectional, each section being cast in malleable iron, also provided with a series of projections to serve as cleats on the outer surface thereof, and on the inner face with projecting lugs, to which the outer end of the spokes are secured. The rim, however, may be made of wrought-iron, with cleats secured thereon or in any other suitable manner, suitable means being provided for securing the spokes thereto.

The hub B of the main wheel A is provided in the usual manner with openings *b*, through which the sliding clutch-pins *c* are adapted to extend to connect and disconnect the wheel from the axle, so that it may turn with the axle or independently thereon. For moving the said pins into or out of engagement we preferably use a revolving cam-collar journaled on the outer end of the main axle *d*, on which the wheel A is supported.

Now, in order to extend the width of the periphery of the wheel without extending the axle or without interfering with the other portions of the main wheel or the mechanism connected thereto, we construct the supplemental wheel A^2 with a hub adapted to join onto the hub of the main wheel at or near the periphery of its flanges, so that when the wheels are joined together they form practically one wheel with double the width of periphery. This supplemental wheel A^2, I construct as follows: The hub is made circular in form with a circular opening therein of a diameter a little less in diameter than the diameter of the flanges *a* on the main hub B^2. This hub B^2 is provided on its periphery with a flange, *d*, to which the spokes *d′* are secured.

On the inner face of the hub B^2, immediately around the central opening therein, is a groove or channel, *e*, adapted to receive the bead or rib a^4 on the outer face of the main hub B. The supplemental hub B^2 is provided with a series of openings therein, preferably four in number, through which are adapted to pass the hook-shaped bolts *f*, which engage over the outer edge of the main hub B and project through the supplemental hub B^2, and are secured therein by suitable nuts, the ends of the hook-shaped bolts being screw-threaded for this purpose.

The outer rim or tire, B^3, of the supple-

mental hub is preferably made in sections of substantially the same form as those which compose the main wheel, these sections being provided, as is the case in the main wheel, with projecting lugs *g* on the inner surface thereof, to which the outer end of the spokes B′ are secured. In the supplemental wheel, however, the projections *g* extend in one direction only, all the spokes which compose the wheel being adapted to join at the center with the single flange *d* on the periphery of the supplemental hub B^2. The main hub B, at the point where the pins *c* extend through, is extended out somewhat forming ears *b′*, in order that sufficient metal may be provided for securing the spoke next to the said pin without weakening the flange to which it is secured.

In order that the supplemental hub B^2 may fit onto the side of the main hub B, an opening, *e′*, is left in the outer rim or side of the groove *e*, into which the ears B are adapted to fit. It will be seen now that by placing the supplemental hub B^2 against the side of the main hub B with the rib or bead a^4 resting in the groove *e* and extending the hook-shaped bolts *f* through the supplemental hub and tightening the nuts thereon, the inner ends being hooked over the flange *a* of the main hub, the supplemental hub may readily be secured on the face or side of the main wheel A, after which the wheels may be connected together at the periphery by suitable pieces extending across the face thereof and bolted or otherwise secured thereto.

In order to prevent the supplemental wheel from turning in its place on the main wheel, we provide on either side of the supplemental hub small projecting lugs or dogs *h h*, adapted to project between the spokes *a′ a′* of the main wheel, as shown in Figs. 3 and 5. It will be seen by this construction that we provide a wheel which may be readily increased in width without interfering with the mechanism of the main wheel or without extending the main axle on which the wheel is supported. The rim a^4 on the main wheel being adapted to fit into a corresponding groove on the supplemental wheel, all lateral strain on the bolts *f*, which secure the portions of the wheel together, is removed. The supplemental hub B^2 being secured directly to the main hub becomes substantially a part thereof. The supplemental tire or rim B^3 being connected to the supplemental hub B by a series of spokes which extend in one direction only from the center of said wheel, and the main and supplemental tires being secured together, we have practically a single wheel having three rows of spokes. It will be seen that by this construction the supplemental wheel may readily be removed or replaced on the main wheel at any time, and may readily be secured to traction-wheels already in use.

Having thus described our invention, we claim as follows:

1. In a traction-wheel, the combination, with the sectional rim of the hub having a flange on either side thereof, said flanges being connected together at suitable intervals by cross-pieces, and adapted to receive a series of spokes on the inner surfaces thereof, which spokes converge inwardly and are connected at their outer ends to the sectional rim at or near its center, substantially as set forth.

2. The combination, with the traction-wheel the hub of which is provided with flanges on either side thereof, to the inner faces of which the spokes of the wheel are connected, of the supplemental or auxiliary hub adapted to be secured on the outer face of the main hub, and connected by a series of spokes to the supplemental rim, substantially as set forth.

3. The combination, with the main wheel the hub of which is provided with a flange to which the inner ends of the spokes are secured, and a bead on the outer edge of said flange, of a supplemental wheel the hub of which is provided with a flange to which the spokes are secured, and having a groove adapted to fit over the bead on the main hub, and means for connecting said hubs and holding the same against a rotary movement in relation to each other, substantially as specified.

4. The combination, with the main hub having the bead or rib on the outer edge thereof, of a supplemental hub having a flange to which the spokes are attached, provided with a groove adapted to fit over said bead, hook-shaped bolts *f*, adapted to pass through the openings in said hub, and projecting lugs *h*, adapted to fit between the spokes on the main hub, substantially as set forth.

5. The combination, with the main wheel having two series of spokes adapted to extend from the respective sides of the hub to the outer end, said spokes being joined at their inner ends to the inside of the flanges on said hub, of the supplemental wheel the hub of which is secured to the outside of the main hub, said supplemental wheel being provided with a single series of spokes secured at the inner end with flanges on said supplemental hub and at the outer end with said supplemental rim, substantially as set forth.

6. The combination, with the main wheel having the hub B, provided with flanges *a*, the bead *b′* on said flange, of the supplemental wheel having the groove *e* in the hub thereof, the hook-shaped bolts *f*, and the projecting lugs *h*, substantially as set forth.

In testimony whereof we have hereunto set our hands this 5th day of March, A. D. 1886.

OLIVER W. KELLY.
LOUIS F. DIETER.

Witnesses:
CHASE STEWART,
PAUL A. STALEY.