

as herein shown, may run on tracks greatly
varying in the level of the rails, and also hav-
ing very short curves, without undue strain of
any of the parts, and also without binding or
5 cramping in the joints.

The top plate, *k*, of the housing-frames is
slotted at *y* for the valve-rods of the engines,
and at *z* for the connecting-rod of the inside
engine. While a single pair of trucks, *a b*, may
10 serve for the locomotive with good results, we
prefer to employ two pairs, as shown, with a
connecting-frame, *e*, which affords greater sta-
bility, and we use the extension for a tender,
as in Fig. 3.

15 Having thus described our invention, what
we claim as new, and desire to secure by Let-
ters Patent, is— Geared Steam Locomotive Works

1. The combination, with side and end trucks
having independent vertical and lateral mo-
20 tion, of independent steam driving-gear to
each one of the side trucks, as and for the pur-
pose described. www.gearedsteam.com

2. In a locomotive-engine, the combination
of a pair of trucks, *a b*, each having inde-
25 pendent driving-engines, and being connected
to the bed-frame or platform by joints, en-
abling said trucks to oscillate both vertically
and horizontally independently of said frame
and of each other, and the bed-frame or plat-

form connected by a pivot-joint, *f*, and jointed 30
braces *g* with the beam *c* of another pair of
trucks similarly jointed together, substantially
as described.

3. The combination, in a locomotive-engine,
of a platform or bed-plate, *m*, a pair of trun- 35
nions, *h*, and trunnion-frames, *i j k*, and a pair
of trucks, *a b*, said trucks being pivoted in
said trunnion-frames and said trunnions being
journalled on the bed-frame *a*, substantially as
described. 40

4. The combination, in a locomotive-engine,
of bed-plate *m*, a pair of trunnions and trun-
nion-frames, a pair of trucks *a b*, and driving-
engines geared independently with said trucks,
respectively, substantially as described. 45

5. The combination, in a locomotive-engine,
of bed-plate *m*, a pair of trunnions and trun-
nion-frames, a pair of trucks, *a b*, and driving-
engines geared independently by crank-shafts
r, pinions *u*, and toothed rims *v*, with said 50
trucks, respectively, substantially as described.

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Witnesses:

C. A. MISSIMER,
W. F. EDDY.