

pass around any desired curvature in the track upon which the locomotive is operated.

Upon the shaft O between the bearings e e' , I place two loose gear wheels P and P', of different size, between which I place a clutch Q adapted to engage with either one of the wheels P or P' as may be desired, by moving a handle Q' communicating with said clutch Q, and on the main or crank shaft R of the engines E E, I secure gear wheels S and S', of different size, adapted to intermesh with and drive the gear wheels P and P' on the shaft O, so that by moving the clutch Q so as to engage with the gear wheel P the shaft O is driven at a slower speed than that of the main or crank shaft R and by moving the clutch Q so as to engage with the gear wheel P' the shaft O is driven at a greater speed than that of the main or crank shaft R. The object of this construction being to enable the engineer to utilize the slower speed when drawing a heavy load around curves or up grades in the track, and the faster speed when on a straight or level track or when drawing light loads. In connecting the driving power to the central portions of the truck axles and making my couplings adjacent thereto I am enabled to utilize the full power of the engine with the least possible loss in going around curves in the track in either direction.

In the construction shown and described I have shown convenient mechanism for utilizing my invention. I do not however confine myself to the exact construction shown and described. Geared Steam Locomotive Works

What I claim as new and desire to secure by Letters Patent of the United States is:

1. The combination in a tramway locomotive truck, of beveled skew-gear wheels secured to the axles of said truck, with cross boxes mounted on said axles adjacent to

the hubs of said beveled skew-gear wheels, a longitudinal driving shaft mounted in and supported by said cross boxes, and beveled skew-gear pinions on said longitudinal driving shaft intermeshing with the beveled skew-gear wheels on the truck axles, substantially as and for the purpose set forth.

2. The combination in a tramway-locomotive, of trucks, as F and F', supporting a locomotive frame A, beveled skew-gear wheels secured to the axles of said trucks, cross-boxes, as I and I', mounted on the truck axles adjacent to the beveled skew-gears thereon, and collars on the axles to prevent the cross-boxes from moving away from the skew-gear wheels thereon, with longitudinal shafts, as J and J', mounted in said cross boxes and having beveled skew-gear pinions thereon intermeshing with the beveled skew-gear wheels on the truck axles, a longitudinal shaft, as O, mounted in bearings on the locomotive frame, and flexible universal joints connecting the ends of the shaft O to the ends of the shafts J and J', substantially as and for the purpose set forth.

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3. The combination in a tramway locomotive truck, of cross boxes I and I' mounted on the axles G and G' of said truck, and collars L secured to said axles adjacent to the ends of said cross boxes thereon, with sleeves M adapted to be clamped over and engage both the end of said cross boxes and the collars on the axles, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES D. SCOTT.

Witnesses:

S. D. DOBBINS,
WM. P. HAYES.