S. A. OTIS.

Track-Scraper.

No. 163,943. Patented June 1, 1875.

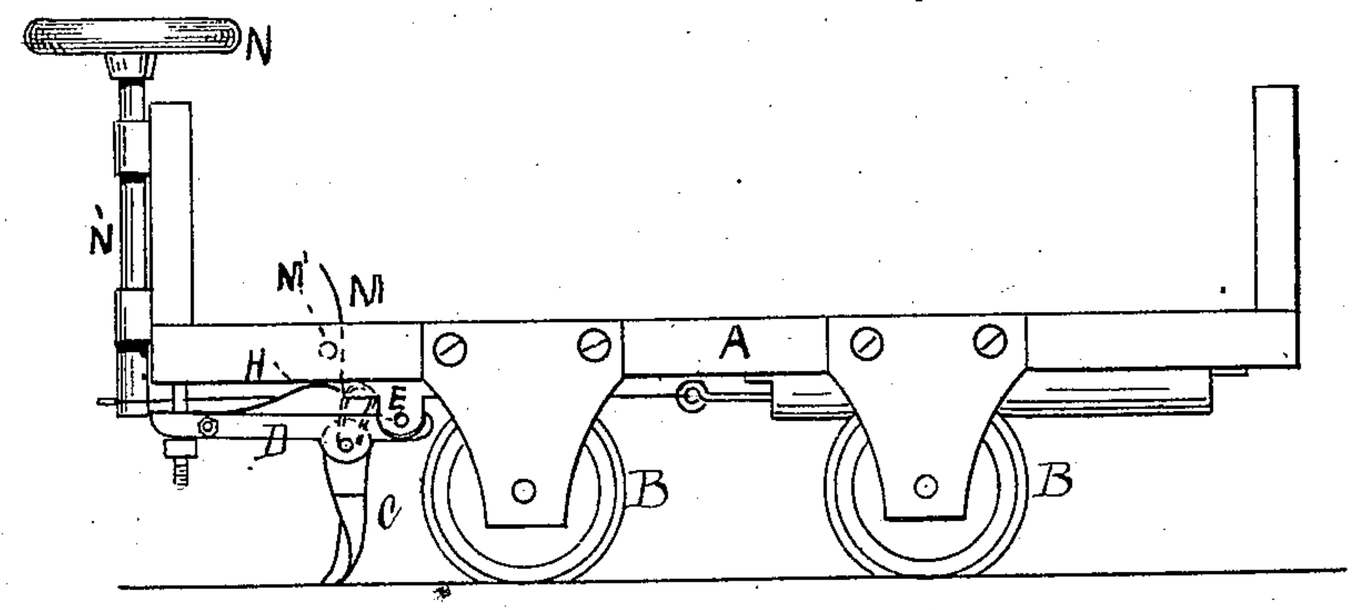

Fig. 1.

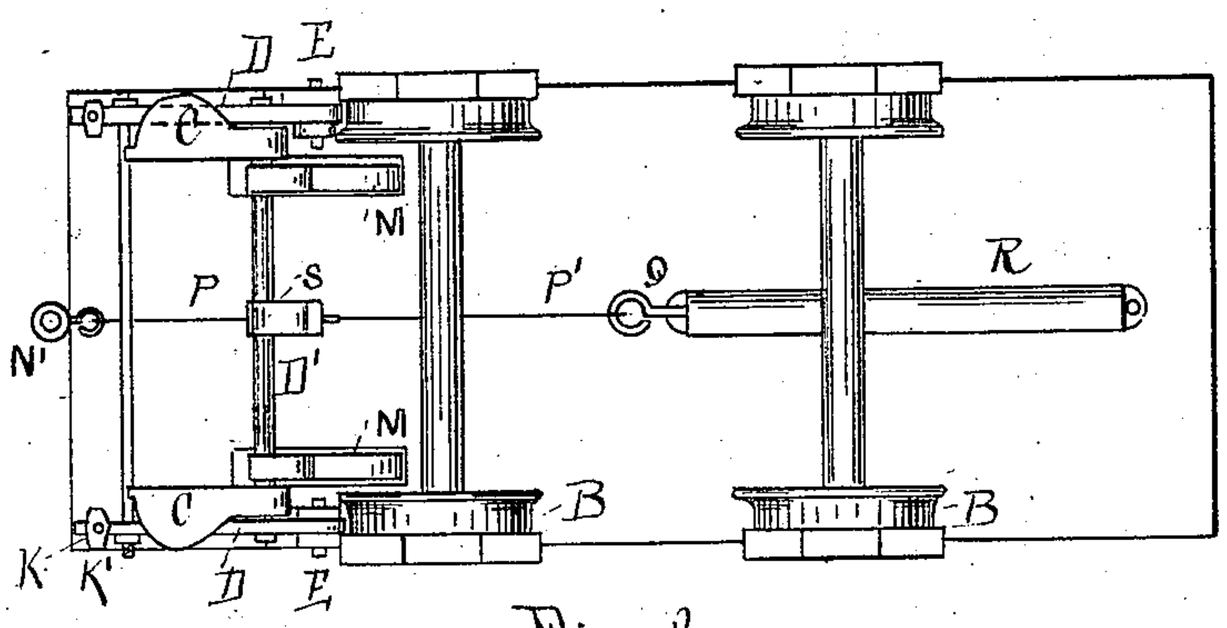

Fig. 2

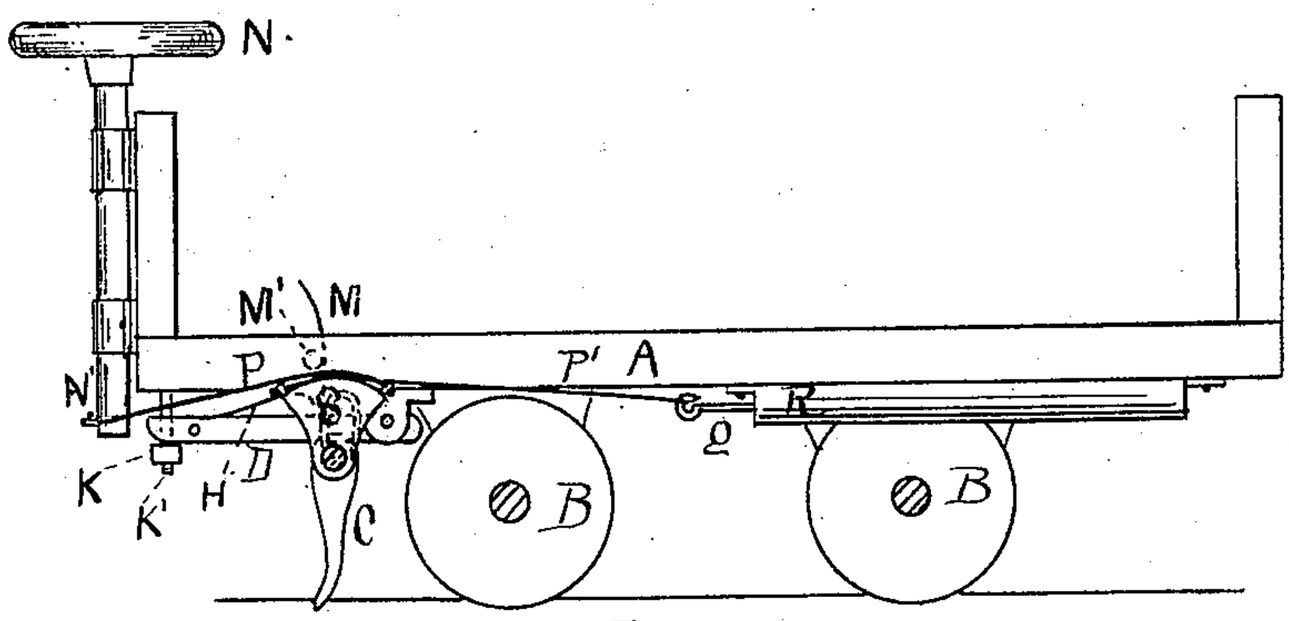

Fig. 3.

Witnesses
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UNITED STATES PATENT OFFICE.

SAMUEL A. OTIS, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN TRACK-SCRAPERS.

Specification forming part of Letters Patent No. **163,943,** dated June 1, 1875; application filed April 14, 1874.

To all whom it may concern:

Be it known that I, SAMUEL A. OTIS, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Track-Scrapers, of which the following is a complete specification:

The nature of my invention consists in a new method of attaching a scraper to the car, so that the scraper may yield both vertically and in the line of draft, the construction of which may be best understood by reference to the specification and drawings.

Figure 1 shows a car in side elevation, with my device attached. Fig. 2 is a plan of the same, looking from underneath. Fig. 3 is a vertical longitudinal section of the same.

Let A represent the body of the car, which is supported on truck-wheels B B, constructed and arranged in the usual manner. C C are the track-scrapers, made as shown. These track-scrapers C C are rigidly attached to a cross-shaft, D′. This shaft D′ is hung on swinging levers D D, which are pivoted at the points E E, and held at the other end by the screw K′ and nut K, so that they may be adjusted to raise or lower the scrapers slightly. H is a spring, which serves to hold the lever D down, and thus keep the scraper on or close to the track. In case the car is heavily loaded, then the lever D may yield upward, so as to take off the strain that would otherwise come on the scrapers, and cause them to press too hard onto the track. The shaft D′ may be revolved, and thus throw up the scrapers when they are not in use. To effect this result I attach to the shaft D′ a segment-piece, S, Figs. 2 and 3; to this segment I attach two chains, P P. The chain P runs back to the rod Q, which is acted upon by a spiral spring in the case R, so that when the segment is not held by the chain P, which passes around the winding-shaft N′, it (the spiral spring in R) will draw the segment S back, and thus swing up the scrapers C. To bring this scraper down, as shown in Figs. 1 and 3, the driver can turn the hand-wheel N; this will wind the chain P onto the shaft N′, and thus draw the segment S forward, and swing the scrapers C C down. M M are stiff springs, one of which is attached to each end of the scraper-shaft D′, and stands in line with the scraper, as shown in Figs. 1 and 2. These springs M M are free to swing with the scraper C C until the scraper gets into a vertical position, as shown in Figs. 1 and 3; then the upper end of the spring M strikes the check M′, and holds the scraper from swinging farther back, unless acted upon by some projection on the track, in which case the spring M will yield sufficiently to allow the scraper to swing still farther back, so as to slip over the obstacle.

From the above it may be seen that the scrapers C have a yielding vertical motion, which they derive from being hung on the levers D D, and a yielding motion on the line of the draft from the springs M M.

I claim as my invention—

1. The combination of the scrapers C C, the shaft D′, the cam S, and the spring at R, all to operate with the adjustable levers D D, substantially as set forth.

2. The combination of the scrapers C C, the springs M M, and stops M′ M′ with the swinging levers D D and shaft D′, all to operate substantially as and for the purpose set forth.

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Witnesses:

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