(No Model.)

P. FABIAN.

FRICTION BRAKE FOR RAILWAYS.

No. 461,825. Patented Oct. 27, 1891.

Fig. 1.

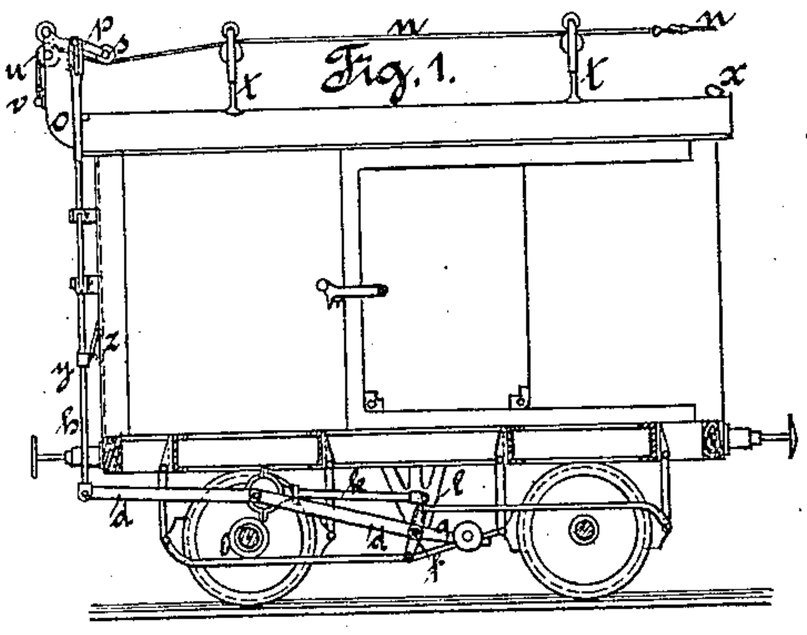


Fig. 2.

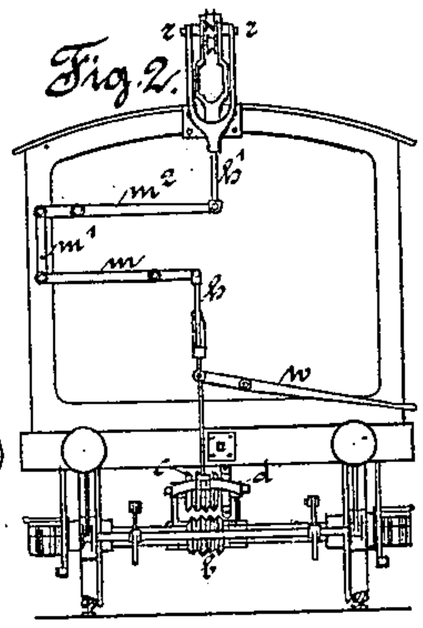


Fig. 5.

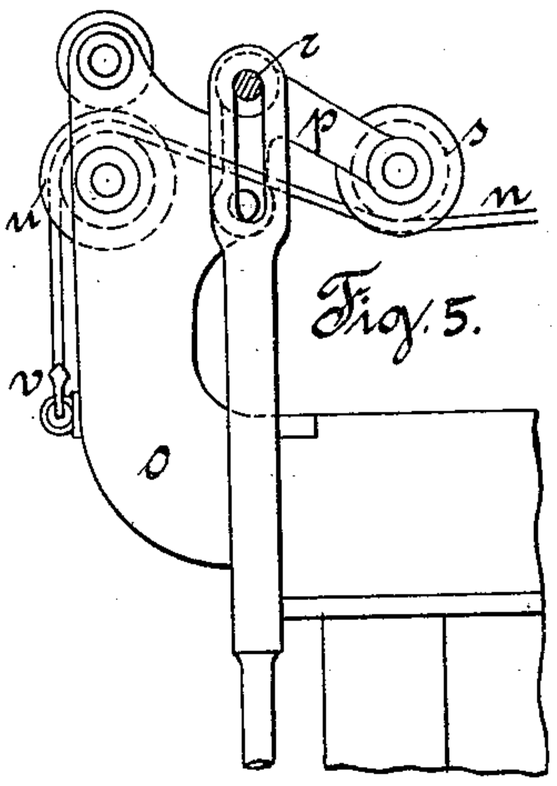


Fig. 3.

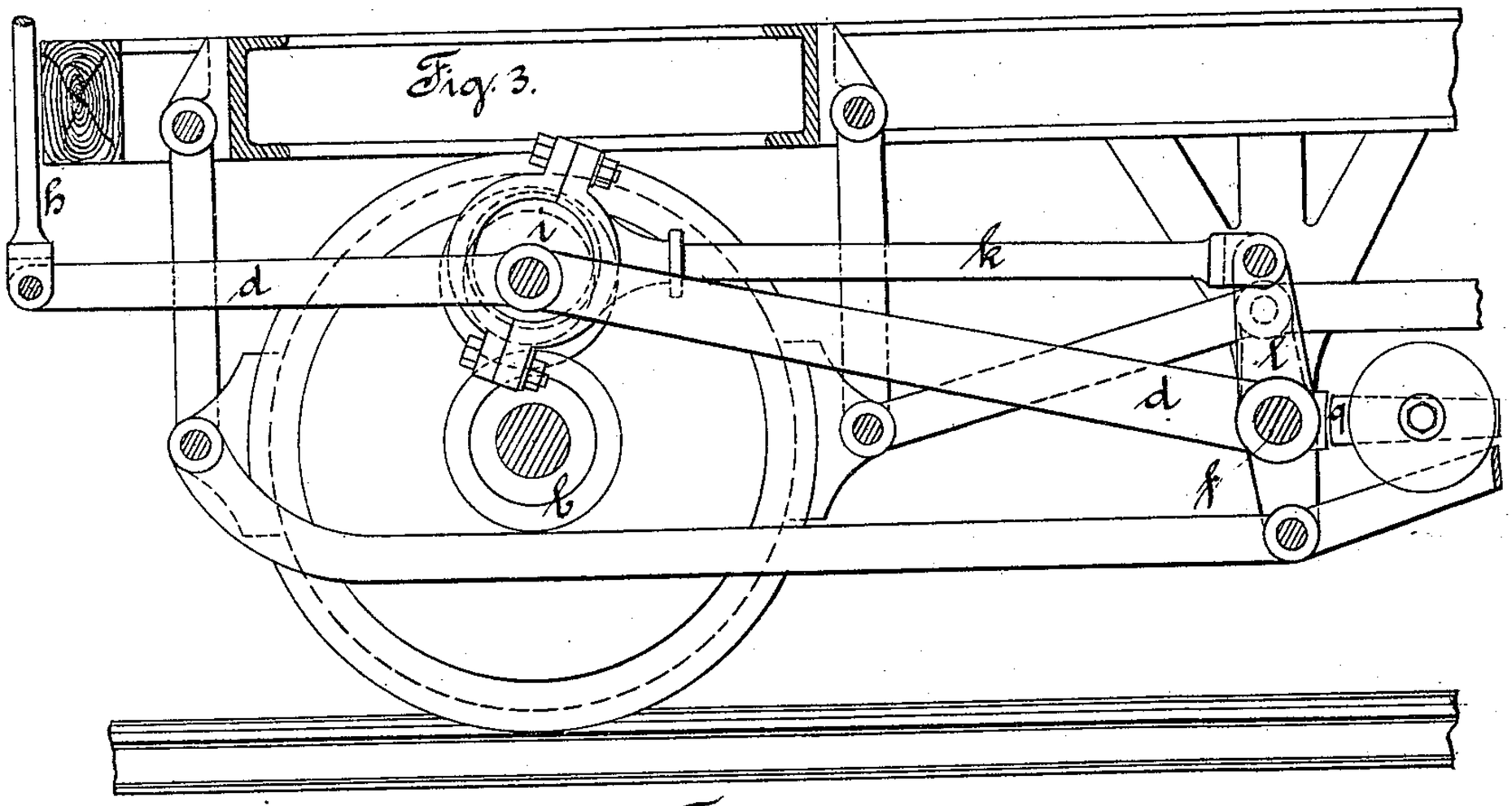
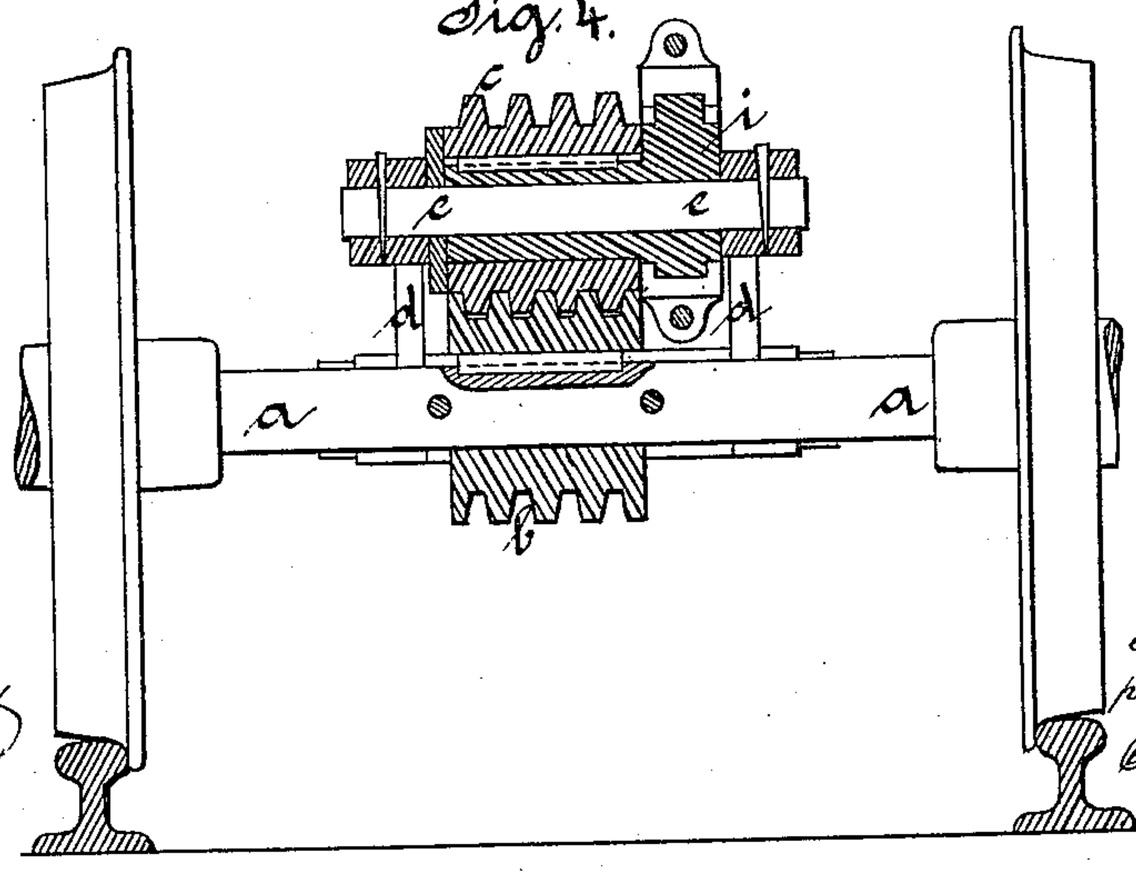


Fig. 4.



Witnesses.
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UNITED STATES PATENT OFFICE.

PAUL FABIAN, OF CHEMNITZ, GERMANY.

FRICTION-BRAKE FOR RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 461,825, dated October 27, 1891.

Application filed April 8, 1890. Serial No. 347,148. (No model.) Patented in Belgium March 13, 1889, No. 85,372; in France March 14, 1889, No. 196,705, and in Germany December 8, 1889, No. 50,269.

To all whom it may concern:

Be it known that I, PAUL FABIAN, a subject of the Emperor of Germany, and a resident of the town of Chemnitz, in the Kingdom of Saxony, Germany, have invented a new and useful Friction-Brake for Railways, (for which I have obtained patents in France March 14, 1889, No. 196,705; in Belgium March 13, 1889, No. 85,372, and in Germany December 8, 1889, No. 50,269,) of which the following is a specification.

This invention relates to friction-brakes for railway-vehicles, and has for its purpose to provide a simple and reliable brake of this class which operates in the same manner regardless of the direction in which the vehicle is running.

Reference being had to the accompanying drawings, Figures 1 and 2 are side view and partial section and rear view, respectively, of a railway-car, with the improved brake device applied thereto. Fig. 3 is a side view and partial section of the brake device drawn to an enlarged scale. Fig. 4 illustrates on the same scale, in partial section, the position of friction-roller device and eccentric when the brake is engaged. Fig. 5 represents a detail.

The car-axle *a* carries a friction-roller *b*, provided with conic rings and adapted to be brought in contact with the correspondingly-shaped friction-roller *c*, which is revoluble about shaft *e*, lodged in lever *d* by lowering the lever *d*, which is revoluble about shaft *f* by aid of the rod *h*, which holds the said lever up, Figs. 1, 3, and 4. The friction-roller *c*, Fig. 4, is mounted on the gab-pin of the eccentric *i* and rigidly connected therewith, both revolving loose on shaft *e*.

The eccentric *i*, Fig. 3, actuates through connecting-rod *k* and lever *l* the shaft *f*, whence the movement is transmitted by the usual lever device employed for every brake-vehicle to the brake-blocks. The cam *i* is so adjusted as to occupy its highest position when the brake-blocks are disengaged, and consequently, when turned slightly to the right or left, to draw back the connecting-rod *k* and lever *l*, thereby approaching the brake-blocks to the wheels. A poised lever *g*, provided on shaft *f*, tends to withdraw the brake-blocks from the wheels. The rod *h* is bifurcated at its upper end and fitted with longitudinal slots, into which the angle-lever *p*, revolubly secured to the block *o*, so engages with the pivot provided at its top as to cause the rod *h*, when the angle-lever *p* is raised by means of the pulley *s*, lodged at its other arm, to participate in this ascent. A line *n*, led through the stands *t*, which are provided with guiding and counter pulleys over all the vehicles of the train and adapted to be operated—*i. e.*, pulled on and released by the known hand or steam winding devices—passes underneath the pulley *s*, Fig. 5, over the pulley *u*, lodged in block *o*, and is then either coupled with the line of the next car or, if the vehicle forms the termination of a train, suspended from the hook *v*, provided on the block *o*, or, with the reverse position of the vehicles, hung into the hook *x*, fixed on the roof of the car. When the line *n*, which is stretched from the guard-stand of the engine on the starting of the train, is suddenly slackened during the journey, the angle-lever *p* allows, through rod *h*, the lever *d* to fall down. The friction-rollers *b* and *c* come in contact or gear, Figs. 3 and 4, and press the brake-blocks so energetically onto the wheels until a frictional sliding takes place. By the weight of lever *d* with friction-roller *c* and eccentric *i* the roller *c* is pressed so firmly on the roller *b* that through the peculiar shape of the friction-rollers *b* and *c* a further transmission, as is required with other friction-brakes for breaking large goods trains, is superfluous.

In order to allow the brake to be also operated by hand when a single car or truck is to be shunted by hand-power, which necessitates the friction-rollers *b* and *c* to be placed out of contact, a hand-lever *w* is provided for lifting the rod *h*, and to maintain said rod in its raised position—*i. e.*, to keep the rollers *b* and *c* out of contact—a hook *y*, attached to rod *h*, is adapted to be hung into the eye or noose *z*, which is loosely suspended from the vehicle. When the latter is coupled to the train and the line *n* pulled from the stand of the guard, the rod *h* is so far raised by angle-lever *p* as to lift the hook *y* out of the noose,

which then falls back onto the side of the vehicle.

What I claim is—

In a friction-brake for railway-vehicles, the combination of an eccentric-disk *i*, rigidly connected with a friction-roller *c*, which is formed of uniform conic rings, and movable on shaft *e*, a friction-roller *b*, shaped so as to fit into *c* and rigidly connected with the car-axle, rod *k*, and lever *l*, whereby the line force of the vehicle or train, whether running forward or backward, so acts on the brake mechanism usual with the ordinary screw-brake as to cause the brake-blocks to be instantly engaged, while they are disengaged when the shaft *e* is raised, substantially as specified.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

PAUL FABIAN.

Witnesses:
H. DE SOTO,
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