2 Sheets—Sheet 1.

M. RÖSSLER.

Car-Brake.

No. 219,877. Patented Sept. 23, 1879.

Fig: 2

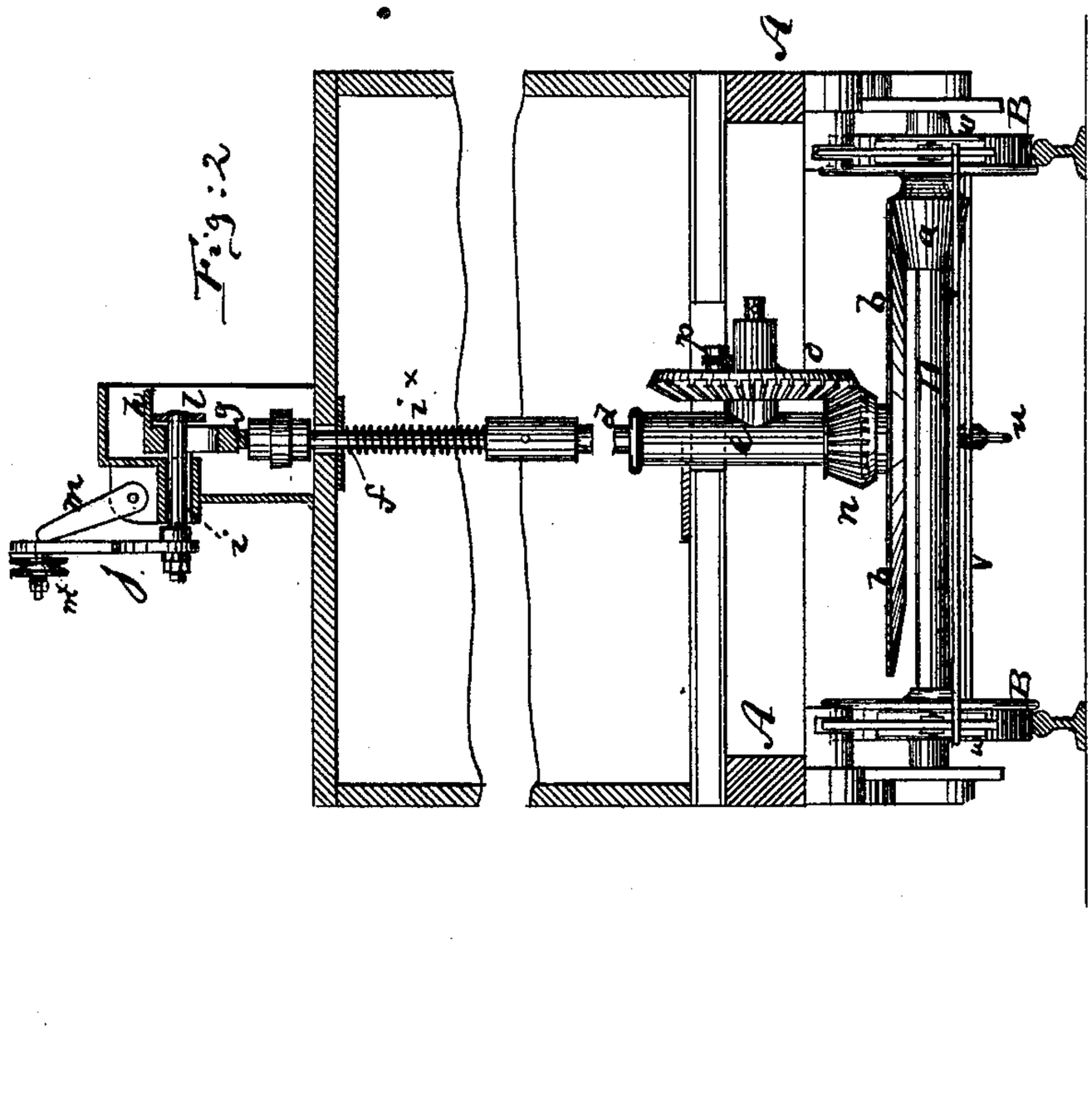
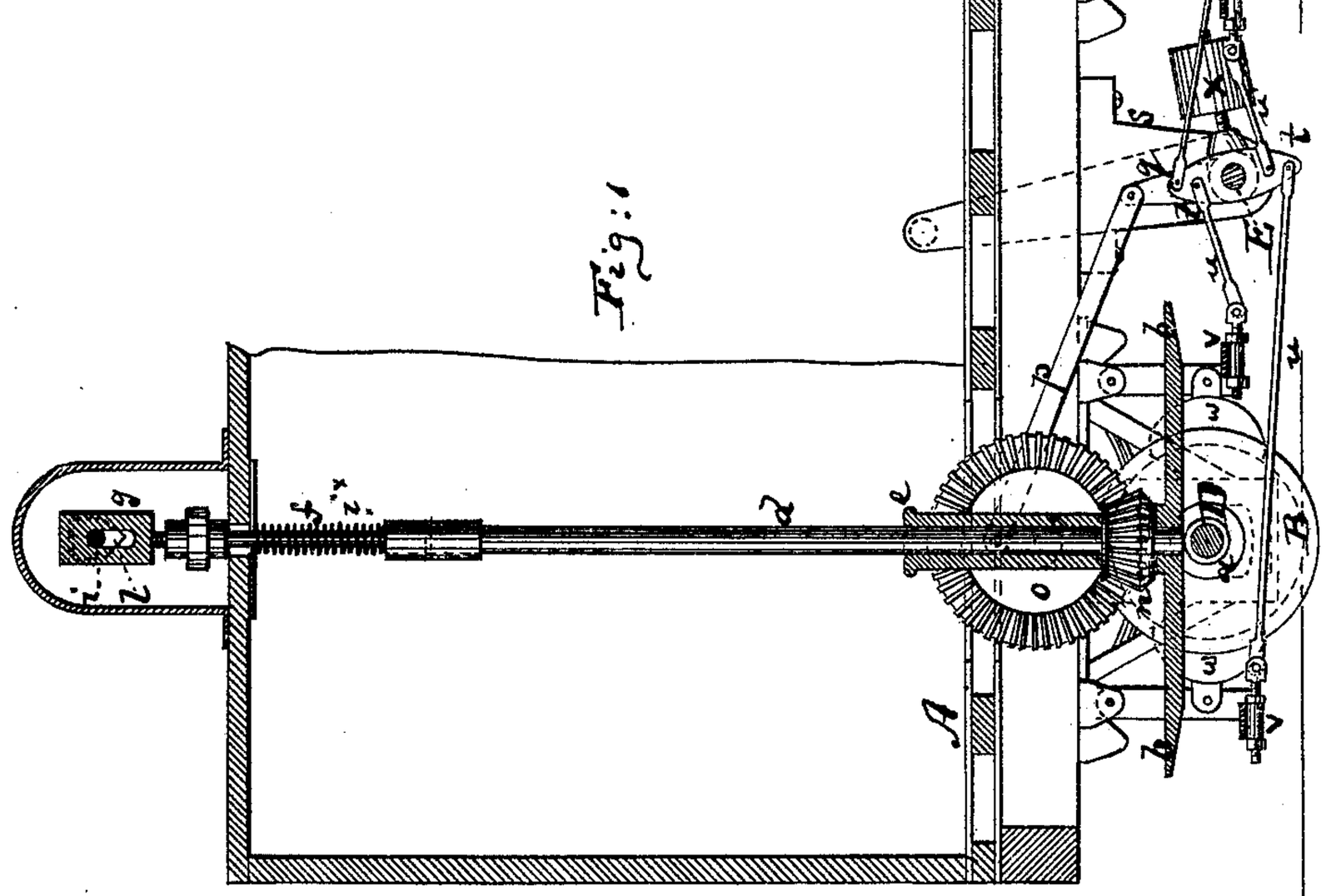


Fig: 1



Witnesses:
John C. Tumbridge
H. G. E. Schultz.

Inventor:
Max Rössler
by his attorney
A. v. Briesen

2 Sheets—Sheet 2.

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Fig: 3

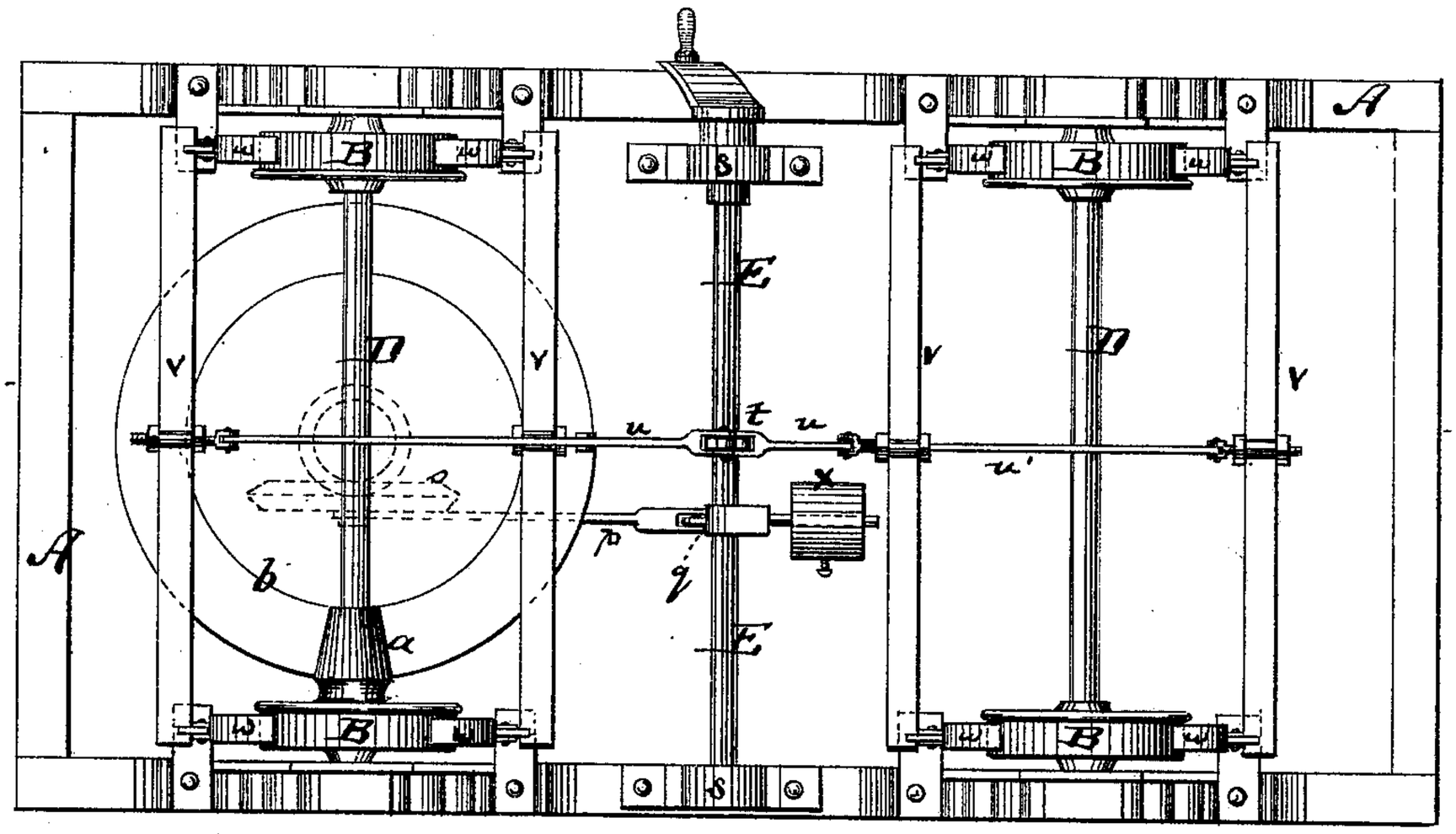
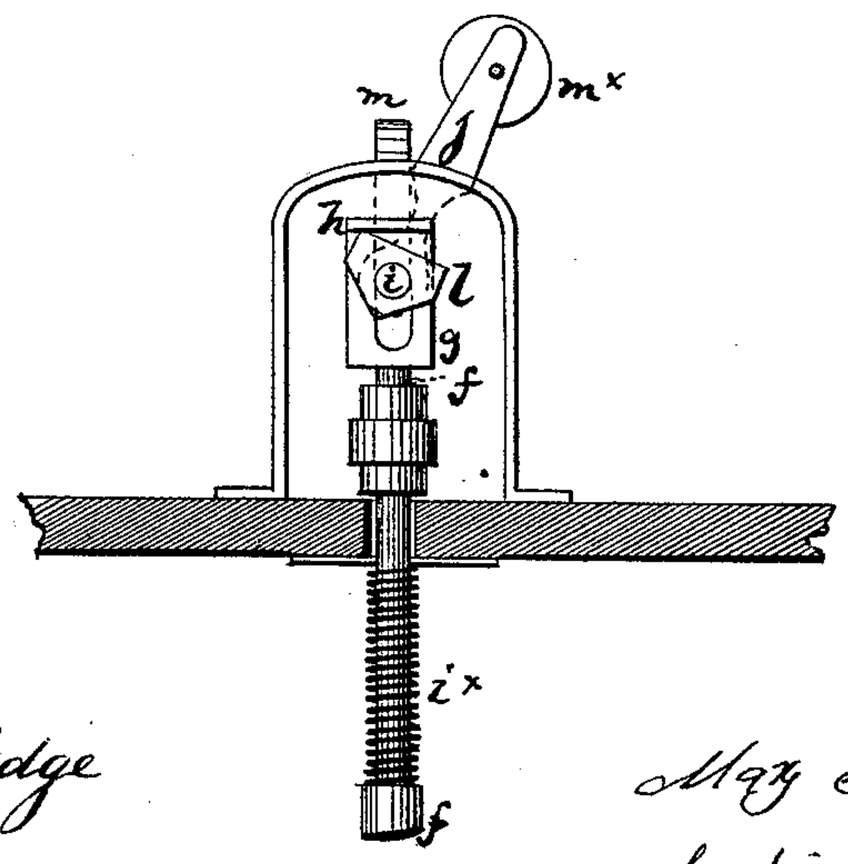


Fig: 4



Witnesses:
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Inventor:
Max Rössler
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UNITED STATES PATENT OFFICE

MAX RÖSSLER, OF AVENSBERG, BAVARIA, GERMAN EMPIRE.

IMPROVEMENT IN CAR-BRAKES.

Specification forming part of Letters Patent No. **219,877**, dated September 23, 1879; application filed June 4, 1879.

To all whom it may concern:

Be it known that I, MAX RÖSSLER, of Avensberg, Bavaria, German Empire, have invented an Improved Car-Brake, of which the following is a specification.

Figure 1 is a vertical longitudinal central section of a car provided with my improved brake; Fig. 2, a vertical transverse section of the same; Fig. 3, a bottom view of the same, and Fig. 4 a detail side view of the brake lock and handle.

Similar letters of reference indicate corresponding parts in all the figures.

This invention relates to an improved brake mechanism for railway-cars, by which the brake-shoes may be readily applied and withdrawn.

The invention consists, principally, in the combination of a friction-cone, which is mounted upon one of the axles of a railway-car, with a friction-disk which may be raised or lowered in contact with said cone, and which is connected with mechanism for automatically applying the brakes whenever frictional contact is established between the cone and disk during the motion of the car in either direction.

The invention also consists in the details of improvement hereinafter more fully pointed out.

In the accompanying sheets of drawings, the letter A represents the frame of a railway-car. B B are the wheels, mounted upon axles D D, in the usual manner. Upon one of the axles D is mounted a friction-cone, *a*. *b* is a friction-disk mounted upon the lower end of a vertical shaft, *d*, from above the cone *a*, and below the floor of the car A. The shaft *d* extends upward through the bottom of the car A, passing through a suitable guide, *e*, and is swiveled at its upper end to a vertical rod, *f*, in such a manner that the shaft *d* is free to revolve in either direction beneath and on said rod *f*. The rod *f* extends through the roof of the car, and is connected to a slotted plate, *g*, which is provided with a horizontally-projecting lip, *h*, as shown. Through the slot of the plate *g* extends a horizontal pin, *i*, which is supported in suitable bearings provided on the roof of the car, and carries a lever, *j*, at one end, and a double cam, *l*, at the other end, this cam *l* being beneath the lip *h*, as shown in Fig. 4. Now, when the lever *j* is swung to the right or left, the cam *l* will raise the lip *h*, and thereby (through the plate *g*, rod *f*, and shaft *d*) also the friction-disk *b*, which will be thrown out of contact with the friction-cone *a*. In either of these inclined positions the lever *j* may be locked by a hinged stop, *m*. When, however, the lever *j* is released, the weight of the friction-disk *b*, to which may be added a spring, $i^{\times}$, will cause it to drop into contact with the friction-cone *a*, by which it will be revolved when the car is in motion. The edge of the disk *b* is conical, to match the cone *a*, as shown in Fig. 2.

Upon the shaft *d* of the friction-disk *b* is mounted a bevel-gear wheel, *n*, which meshes into a second bevel-gear wheel, *o*, which is mounted upon a shaft that extends horizontally from and hangs in an arm of the guide *e*. To a crank-pin on the face of the cog-wheel *o* is pivoted one end of a rod, *p*, whose other end is pivoted to a crank, *q*, on a transverse shaft, E, which is suspended in bearings *s s* from the frame of the car-bottom. The shaft E carries another double crank, *t*, which is connected by rods *u u'* with the cross-bars *v*, that carry the brake-shoes *w*. The rods *u u'*, which are to operate brake-shoes *w* at opposite sides of the wheels B, are attached to the opposite arms of the crank *t*, so that when such crank is vibrated the rods *u u'* are moved in opposite direction, and thereby cause the brake-shoes *w*, at opposite sides of the wheels, to simultaneously move toward or recede from each other. A weighted crank, *x*, on the shaft E serves to hold the brakes off the wheels while the car is in motion. When the train is in motion with the brakes off, the friction-disk *b* is, by the mechanism heretofore described, held out of contact with the friction-cone *a*, either by the stop *m* bearing against one side of the lever *j*, as in Fig. 4, or by tightening a cord that passes over a friction-roller, $m^{\times}$, which is hung to the free end of the lever *j*.

When the brakes are to be applied the lever *j* is released, so that the arm *h* will no longer be supported by the cam *l*, and the friction-disk *b* will descend and come in contact with the friction-cone *a*, by which it will be revolved. The revolution of the friction-disk *b* will be imparted to the cog-wheel *n*, which, in turn, will rotate the cog-wheel *o*. This wheel *o*, in turning, moves the rod *p*, crank *q*, and shaft E,

causing the latter to be partly revolved. The crank *t* will thus be partly revolved, and will, by means of the rods *u u'* and cross-bars *v*, apply the brake-shoes *w* to the wheels B. As soon as the brake-shoes are applied the friction-cone *a* will be unable to further turn the friction-disk *b*, but will revolve beneath the same under friction.

The brakes in a series of cars may be operated at the same time by means of ropes which connect the several levers *j*, passing over the friction-wheels $m^{\times}$ thereon.

It will be seen that the above brake mechanism is of simple construction, readily applied, and that it will operate if the cars are moved in either direction.

I claim—

1. The combination of the friction-disk *b* with the shaft *d*, rod *f*, slotted plate *g*, having lip *h*, and with the lever *j*, having cam *l*, substantially as specified.

2. The combination of the friction-disk *b* and its shaft *d* with the cog-wheels *n o*, rod *p*, crank *q*, and shaft E, having crank *t*, said crank being connected with the rods which apply the brake-shoes *w*, substantially as specified.

This specification signed by me this 12th day of March, 1879.

MAX RÖSSLER.

Witnesses:

CARL T. BURCHARDT,

EMIL FARLO.