

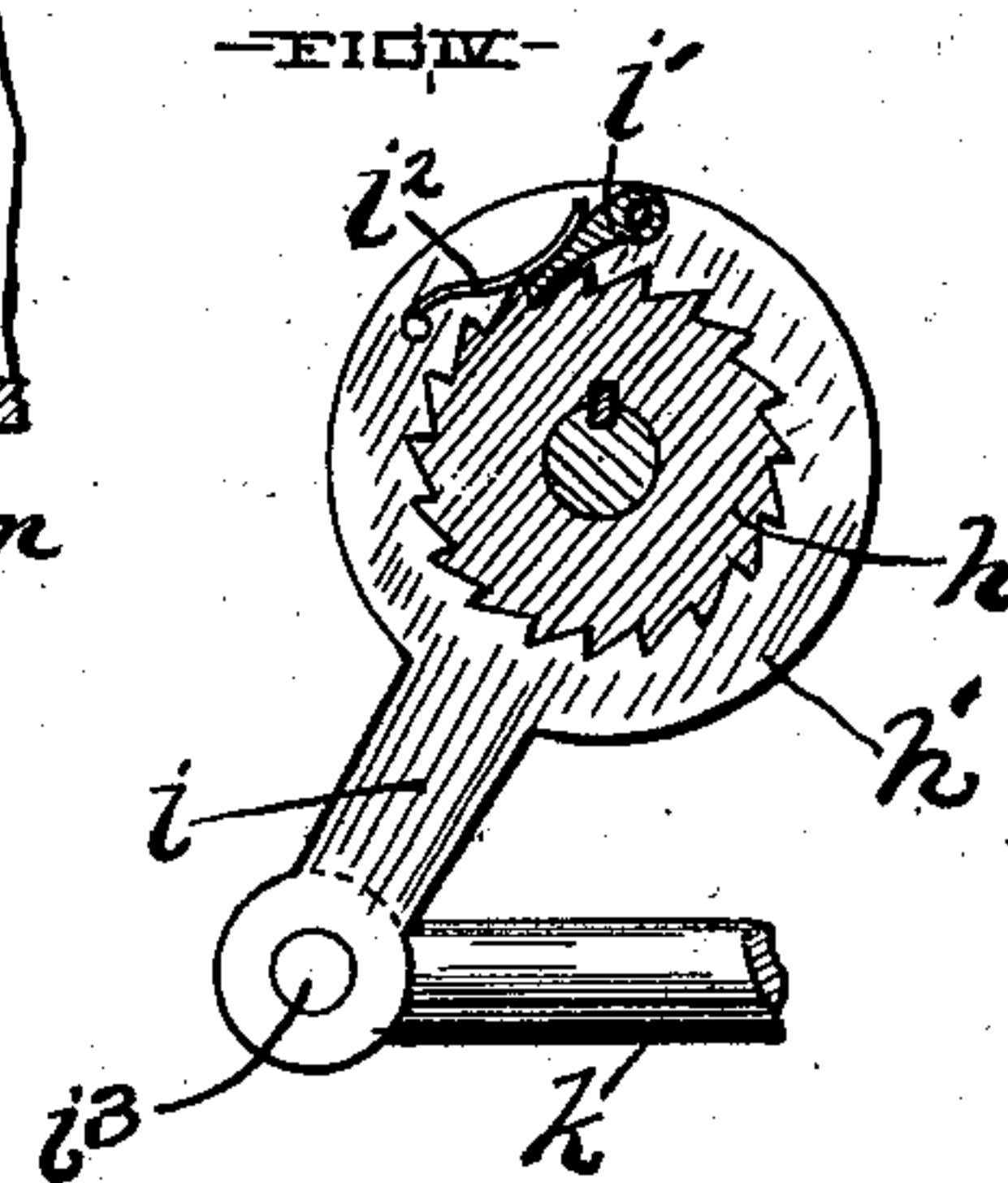
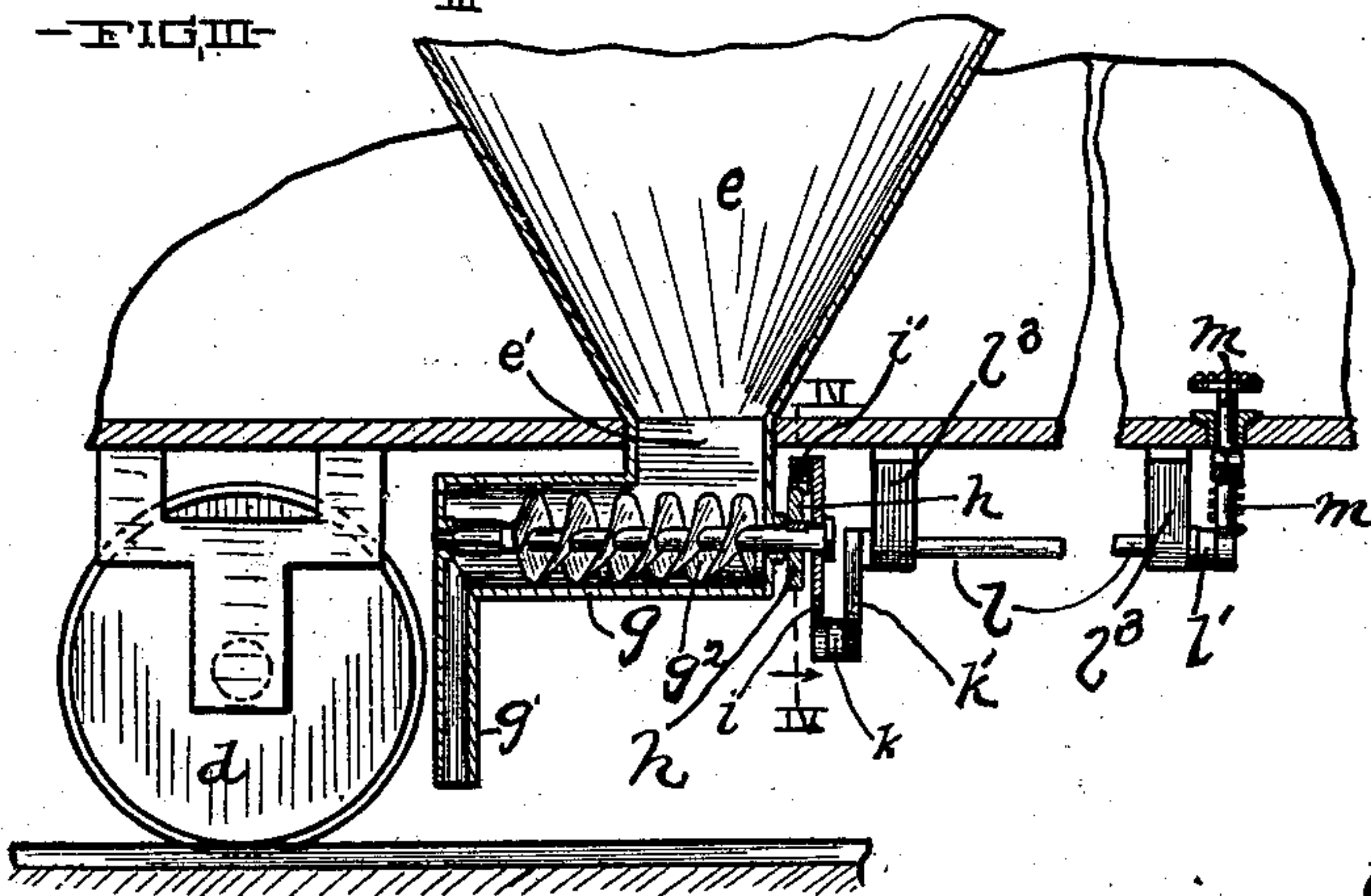
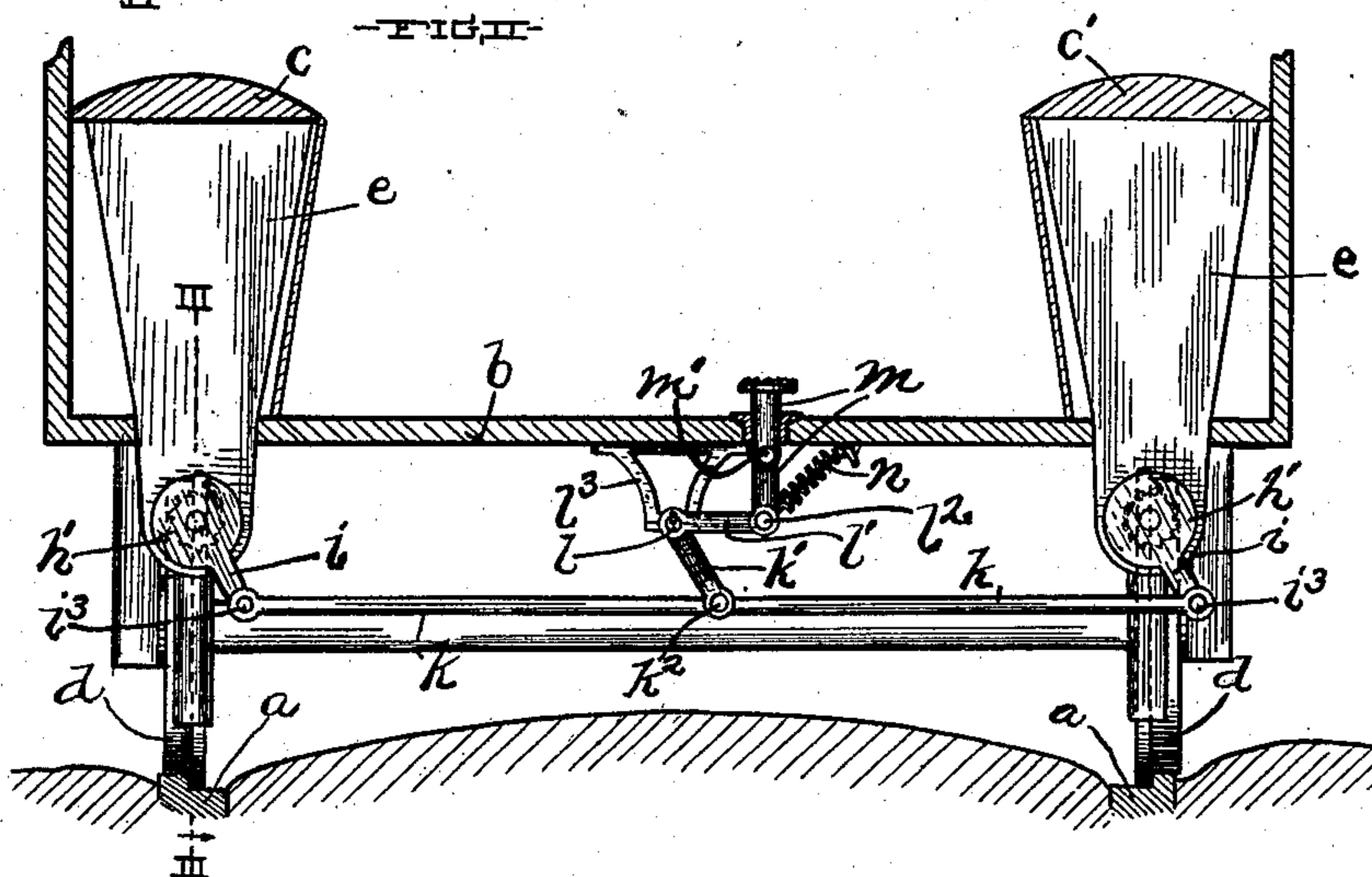
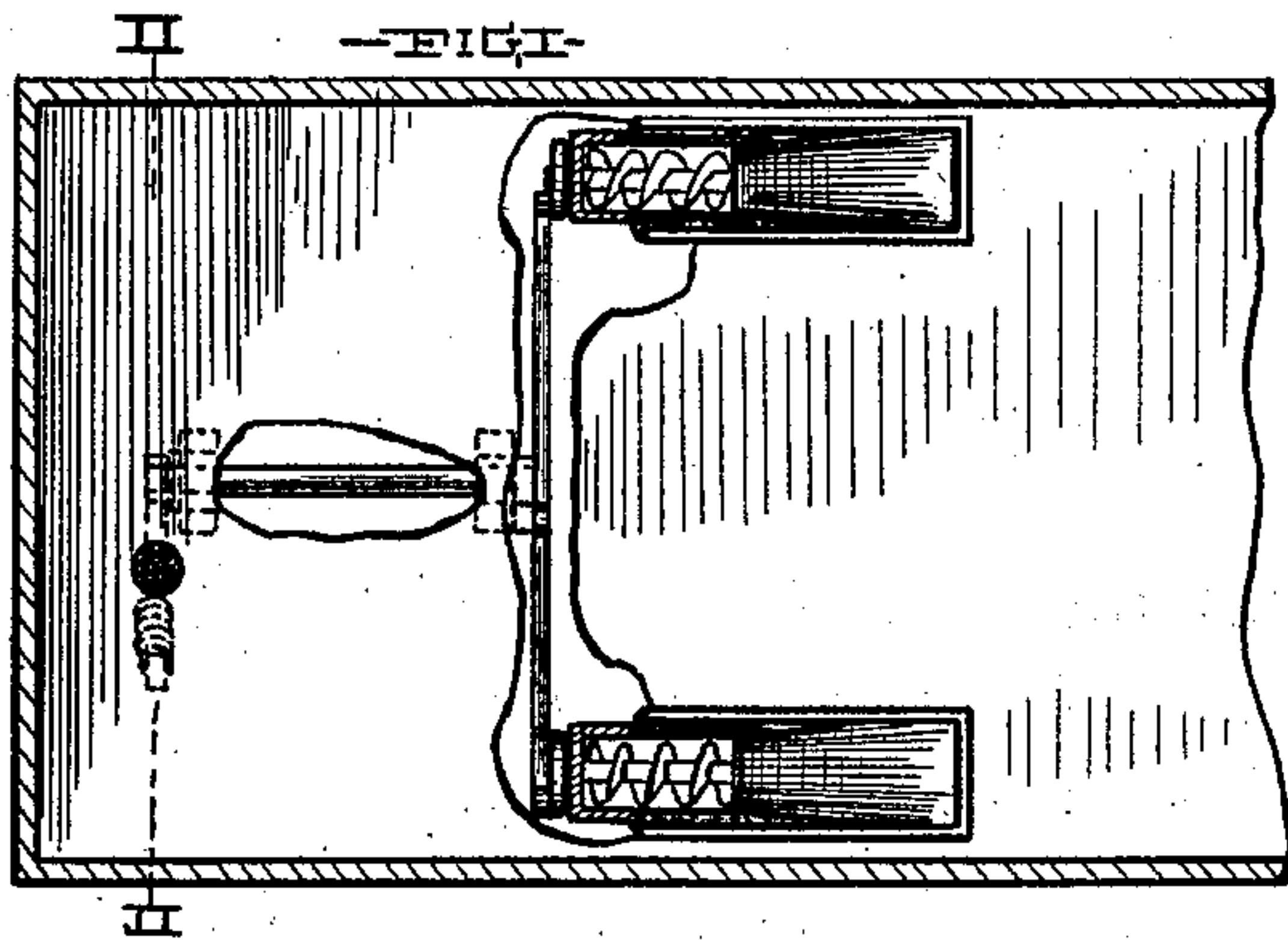
No. 701,877.

Patented June 10, 1902.

O. S. HAMMOND.
SANDING MACHINE.

(Application filed Jan. 25, 1902.)

(No Model.)



WITNESSES:

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UNITED STATES PATENT OFFICE.

OLIVER S. HAMMOND, OF TORONTO, CANADA, ASSIGNOR OF TWO-THIRDS
TO ALEXANDER M. CAMPBELL AND VAVASOR ROBIN, OF TORONTO,
CANADA.

SANDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 701,877, dated June 10, 1902.

Application filed January 25, 1902. Serial No. 91,179. (No model.)

To all whom it may concern:

Be it known that I, OLIVER SHARVELL HAMMOND, a citizen of the Dominion of Canada, and a resident of Toronto, in the county of York, Province of Ontario, Canada, have invented certain new and useful Improvements in Sanding-Machines; and I hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to improvements in sanding-machines for vehicles, and especially to the class of devices particularly adapted for use on cars operated on railways.

The object of my invention is to provide a sanding-machine which when in operation will throw a quantity of sand at each side of the car at the same time and immediately in front of the wheels.

My invention consists in providing new and improved means for simultaneously operating separate sanding devices arranged on opposite sides of a car.

My invention further consists in the features of construction and combination of parts, as illustrated in the drawings and hereinafter described in the specification, and pointed out in the claims.

In the accompanying drawings, Figure I is a horizontal section of the front part of a car equipped with my sanding-machine, the section being taken just above the floor of the car and shows the floor partly broken away.

Fig. II is a section on lines II II, Fig. I. Fig. III is a section on lines III III, Fig. II. Fig. IV is a section on lines IV IV, Fig. III.

Referring to drawings, *a* and *a'* represent the rails on which the car travels.

b represents the floor of the car.

c and *c'* represent seats arranged along the respective sides of the car.

d and *d'*, respectively, represent the forward wheels of the car.

On each side of the car in the space underneath the respective seats are arranged hoppers *e* and *f*, respectively. The sides of each of the respective hoppers are inclined downwardly toward an opening in the bottom of the hopper, which corresponds to a similar

opening in the floor of the car directly under each of the respective hoppers. A neck portion *e'* is secured to the bottom of the hopper *e*, and it extends down through the opening in the floor of the car. To the neck *e* is secured a casing *g*, which is arranged immediately in front of the wheel *d*. The casing *g* is provided with a spout *g'* at its end adjacent to the wheel *d*. This spout *g'* is of sufficient length to extend down within a short distance of the rail *a* in order to secure the sand being deposited directly on the rail in front of the wheel. The front end of the casing *g* is closed, and in the front end and in the rear end are formed bearings, in which is mounted a screw conveyer *g*². The shaft of the screw conveyer is formed longer than the casing, so that it extends a short distance beyond the front end of the casing. On the projecting end of the screw conveyer-shaft, close to the front end of the casing, is keyed a ratchet-wheel *h*. On the end of this conveyer-shaft beyond the ratchet-wheel is rotatably mounted a pawl-carrying head, preferably comprising an annular plate *h'* of greater circumference than the pawl-wheel. The said plate is provided with a depending arm portion *i*. On the face of the annular plate *h'* adjacent to the ratchet-wheel is mounted a pawl *i'*, arranged to engage the teeth of the ratchet-wheel *h*. A spring *i*² is secured to plate *h* above the pawl and is arranged to hold the pawl in engagement with the teeth of the ratchet-wheel.

The arms *i* of the pawl-carrying heads on each side of the car are operatively connected by means of a rod *k*, the ends of which rod are hinged to the ends of the respective arms *i* by pins *i*³. A shaft *l* is arranged above the connecting-rod *k* and at right angles thereto and is supported by means of bracket *l'*, secured to the floor of the car. On the rear end of the shaft *l* is rigidly secured a lever-arm *l'*, which has its lower end hinged to the connecting-rod *k* by means of a pin *l*². To the front end of the rod *l* is rigidly secured a lever-arm *l'*. An operating-rod *m* extends down through the floor of the car and is connected with the lever-arm *l'* by means of a pivot-pin *l*². This operating-rod *m* is preferably formed

in two sections secured together by means of a pivot-pin m' . A spring n is provided for holding the lever-arm l' in its normal position parallel with the floor of the car, and, as shown in the drawings, one end of the spring is secured to the bottom of the car.

It will readily be seen that by depressing the operating-rod m motion is communicated to the lever-arm l' , which in turn rotates the shaft l , and a corresponding motion is communicated to the respective pawl-carrying heads through the medium of the lever-arm k' and the connecting-rod k . As the pawl-carrying heads rotate the respective pawls i' engage the teeth of the respective ratchet-wheels h , thereby actuating the ratchet-wheels, which in turn rotate the respective conveyers g^2 , thereby forcing a stream of sand through the respective spouts g' .

As shown in the drawings, my sanding-machine is arranged to be operated by pressing the foot upon the operating-rod; but I do not desire to limit myself to this mode of operation, as with a slight modification my device can be adapted to be operated by means of steam, electricity, or any power used in operating the car.

What I claim is—

1. The combination with a railway car or vehicle having wheels arranged at opposite sides, respectively, of the car or vehicle, of hoppers arranged within the body of the car and at opposite sides thereof, conveyer-cases located beneath said car and in open communication with the respective hoppers, discharge-spouts depending from each of said cases, and arranged to discharge in advance of the said wheels of said cars, screw conveyers arranged within each of said cases, and having their shafts extending beyond the end of the said casing, ratchet-wheels rigidly secured on each of the conveyer-shafts outside of said casing, a pawl-carrying head rotatably mounted on each conveyer-shaft adjacent to the ratchet-wheels and having the pawl in engagement with the teeth of the said ratchet-wheel and means for operatively connecting the respective pawl-carrying heads, substantially as described.

2. The combination with a railway car or vehicle having wheels arranged on opposite sides respectively, of the car or vehicle, of hoppers arranged within the body of the said car, and at opposite sides thereof, conveyer-cases located beneath said car and in open communication with the respective hoppers, discharge-spouts depending from each of said

cases and arranged to discharge in advance of the said wheels of the said car, screw conveyers located within the respective casings and having the ends of the conveyer-shafts extending beyond the ends of the said casings, a ratchet-wheel rigidly secured on each of the conveyer-shafts outside of said casing, a pawl-carrying head rotatably mounted on each of the said conveyer-shafts adjacent to the respective ratchet-wheels, a pawl mounted upon each of the said heads and arranged to engage the teeth of the respective ratchet-wheels, a rod operatively connecting the said pawl-carrying heads, an operating-rod mounted vertically in an opening in the floor of said car and a bell-crank lever connecting said operating-rod and the said connecting-rod, substantially as described.

3. The combination with a railway car or vehicle having wheels arranged at opposite sides, respectively, of the car or vehicle, of hoppers arranged within the body of the said car and at opposite sides thereof, conveyer-cases located beneath said cars and in open communication with the respective hoppers, discharge-spouts depending from each of said casings and arranged to discharge in advance of the wheels of the said car, screw conveyers arranged within said casings having their ends projecting through the ends thereof, ratchet-wheels keyed on each of the conveyer-shafts outside of said casing, pawl-carrying heads rotatably mounted on each of the said conveyer-shafts adjacent to the said ratchet-wheels, a pawl mounted on the respective pawl-carrying heads and arranged to engage the teeth of the respective ratchet-wheels, a rod operatively connecting the said pawl-carrying heads, a shaft mounted above said connecting-rod and at right angles thereto, a lever-arm forming an operative connection between said connecting-rod and said shaft, an operating-rod mounted vertically in an opening in the floor of said car, a lever-arm forming an operative connection between the said shaft and the said operating-arm, and a spring for holding the last-mentioned lever-arm in its normal position, substantially as described and for the purpose set forth.

In testimony whereof I sign the foregoing specification, in the presence of two witnesses, this 2d day of January, 1902, at Toronto, Canada.

OLIVER S. HAMMOND.

Witnesses:

A. M. CAMPBELL,
A. W. ROBBUCK.