

(No Model.)

2 Sheets—Sheet 1.

J. F. C. JURGENSEN.

HORSE DETACHER.

No. 339,104.

Patented Mar. 30, 1886.

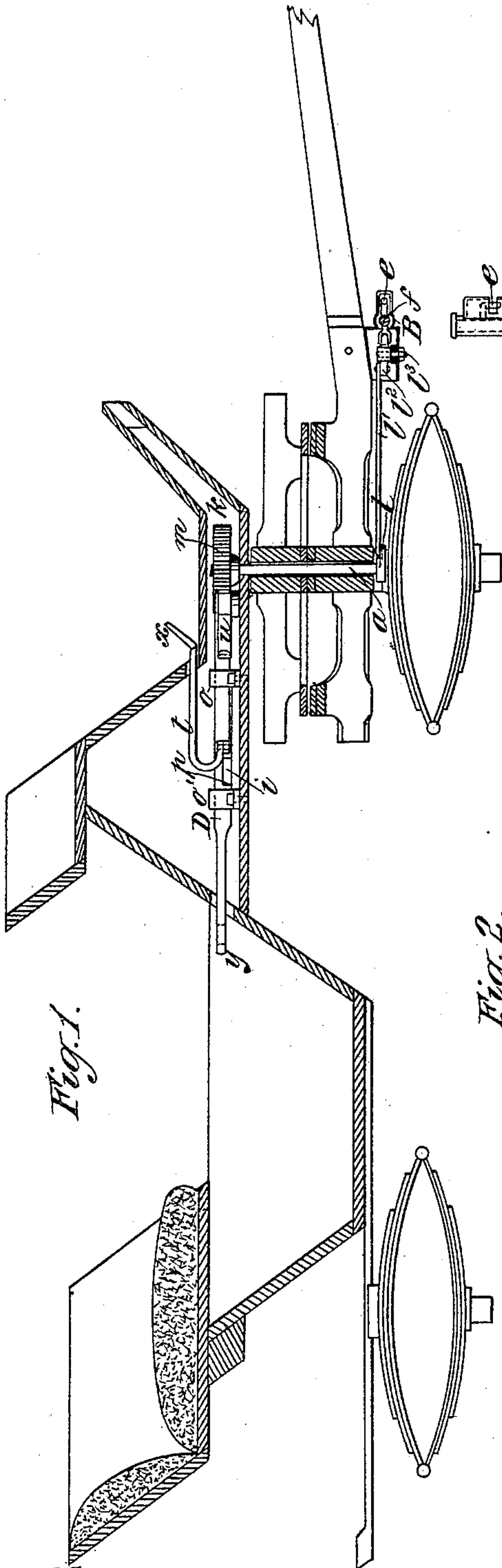


Fig. 1.

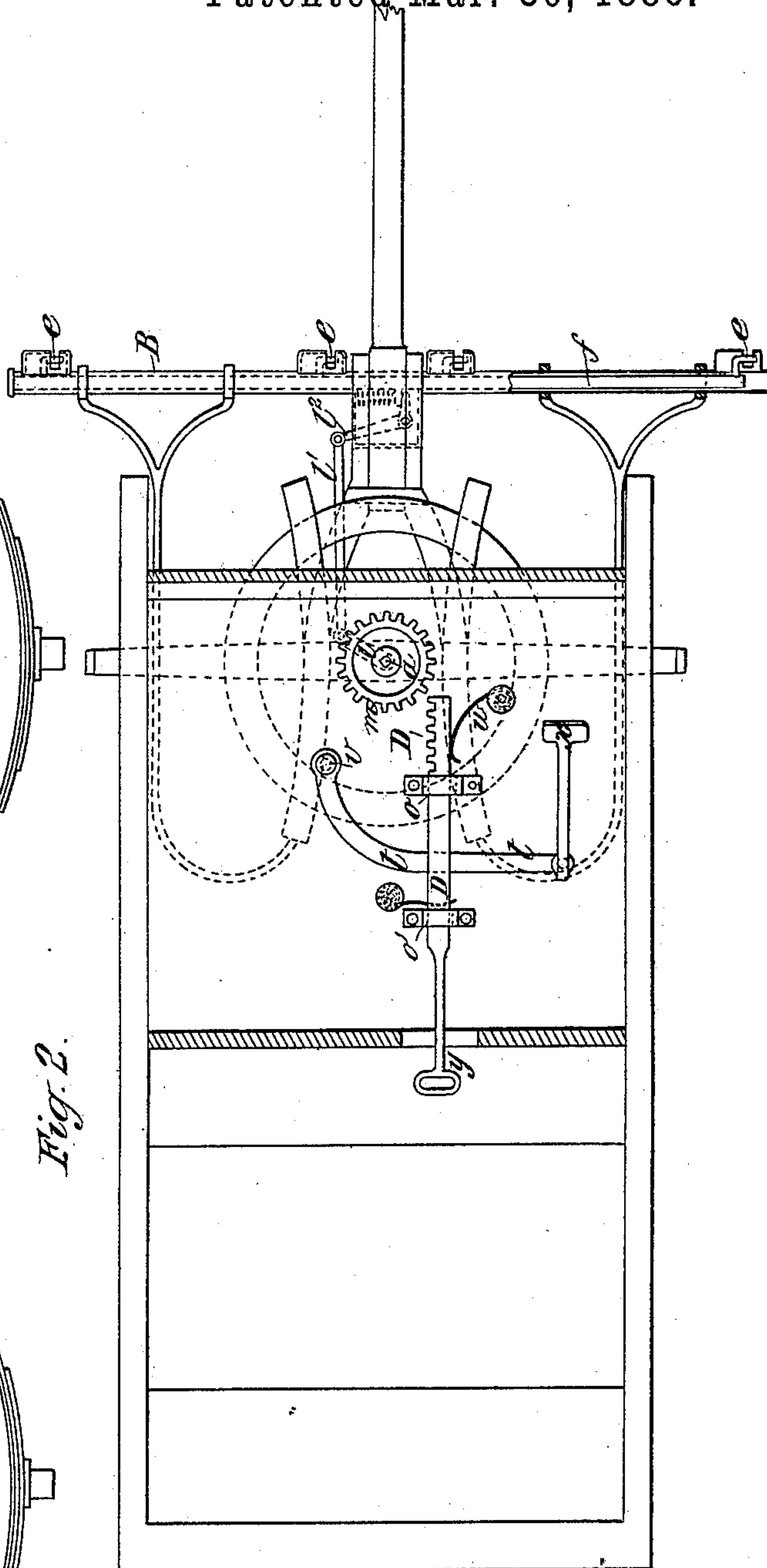


Fig. 2.

Witnesses:
O Sundgren
Emil Hexter.

Inventor:
Jacob Friedrich Christian Jurgensen,
by his attorneys
Brown & Hall

(No Model.)

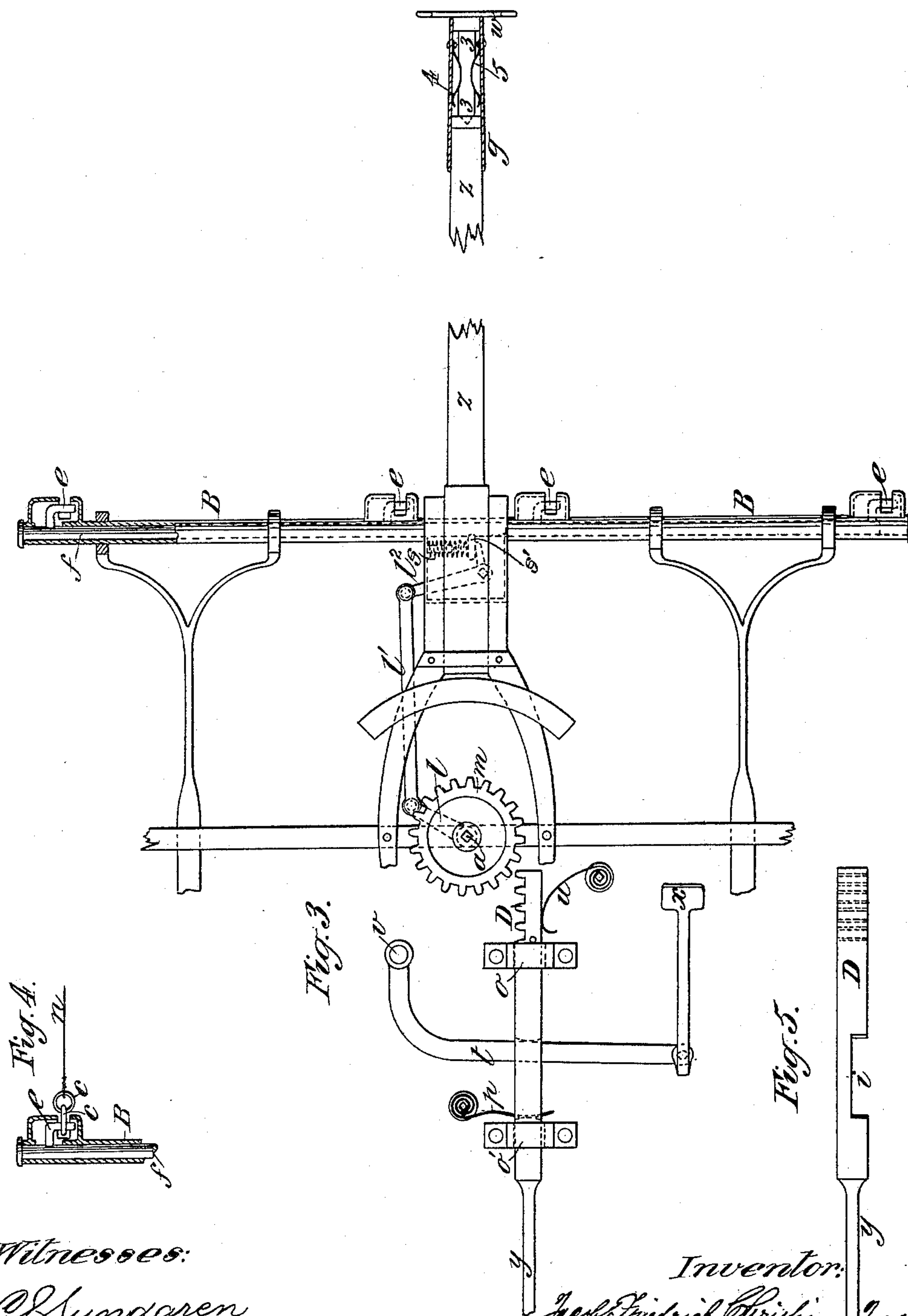
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Emil Hertel

Inventor:
Jedrich Christian Jurgensen
By his attorney
H. H. Hall

UNITED STATES PATENT OFFICE.

JACOB FRIEDRICH CHRISTIAN JÜRGENSEN, OF MELDORF, GERMANY.

HORSE-DETACHER.

SPECIFICATION forming part of Letters Patent No. 339,104, dated March 30, 1886.

Application filed February 8, 1886. Serial No. 191,116. (No model.)

To all whom it may concern:

Be it known that I, JACOB FRIEDRICH CHRISTIAN JÜRGENSEN, a subject of the German Emperor, residing at Meldorf, in the German Empire, have invented a new and useful Improvement in Mechanism for Disengaging Harnessed Horses from Carriages, of which the following is a specification, reference being had to the accompanying drawings.

10 This invention has for its object to immediately release runaway horses from the carriage to which they are harnessed.

15 The improved apparatus is illustrated in the accompanying sheet of drawings, of which Figure 1 represents a side view in section of a carriage furnished with the invention. Fig. 2 is a plan of the frame of the carriage body and mechanism. Fig. 3 is a plan of the disengaging apparatus or mechanism on a larger scale than that of Figs. 1 and 2. Fig. 4 is a longitudinal sectional view of one of the trace-connections. Fig. 5 is a side view of the rack which constitutes part of the disengaging mechanism.

25 Similar letters of reference indicate corresponding parts in the several figures.

30 *a* is the king-bolt, connecting the front part of the frame of the carriage-body to the front running-gear. On this pin *a* a toothed wheel or pinion, *m*, is fastened, and arranged preferably within the free space *k* in the double bottom of the foot-board of the front seat of the carriage.

35 *B* is a hollow single-tree, to which the traces *n* are attached by means of rings *c* and hooks *e*, as illustrated in Fig. 4 of the drawings.

40 The hooks *e* are formed on or attached to a rod, *f*, sliding within the hollow single-tree *B*, so that by pushing the rod endwise the hooks are caused to slip out of the rings of the traces and release the horses instantaneously. The sliding motion of the rod *f* for releasing the horses is produced from the seat of the driver by a rack, *D*, which is guided in fixed brackets 45 *o o'*, secured to the carriage-body, and which can, by a lever, *t*, fulcrumed on a fixed bolt, *v*, and passing through a slot or recess, *i*, Fig. 5, of rack *D*, be pushed forward by the foot of the driver acting against a treadle, *x*, attached 50 to its end farthest from the fulcrum *v*. The rack is commonly out of gear with the pinion

m, as will be understood from Figs. 2 and 3 of the drawings, for the purpose of allowing the pinion freely to follow all movements of the single-tree *B*, to which pin *a* is attached. 55

To the lower end of the king-bolt *a* is secured a lever-arm, *l*, which is connected by a rod, *l'*, with one arm of an elbow-lever, *l''*, which is fulcrumed at *l'''* to the single-tree *B*, the other arm of the said lever bearing against 60 a projection, *s'*, which is provided on the back of the rod *f*, and which projects through an opening in the back of the single-tree.

When the rack *D* is pushed forward into gear with the pinion *m* and pushed farther 65 forward, it turns the said pinion and the king-bolt independently of the movements of the single-tree, and the lever mechanism *l l' l''* pushes the rod *f* endwise and disengages the traces from the hooks *e e*. The rod *f* is re- 70 turned to the position to close the hooks *e e*, and is kept in such position by a spring, *s*, pressing against its projection *s'*, as will be understood from Fig. 3 of the drawings.

75 *u* is a spring tending to press the rack toward the pinion *m*, to keep it in gear during the forward motion of the rack. The front bracket or guide, *o*, must be made wide enough to allow the rack to compress spring *u*, and to move away from the pinion *m* in case the end 80 or face of the first tooth of the rack should at the moment of engagement come in contact with the outer face of a tooth of the pinion. The rack must in that case be pushed forward until the front tooth of the rack reaches the 85 hollow space between the aforesaid tooth of the pinion and the next tooth thereof. The rack will be caused to engage with the pinion by the action of spring *s*, and turn the pinion.

90 *p* is a spring that keeps the rack in disengaged position.

To release the horses from the thill or pole 95 *z* at same time when the traces are disengaged, the cross-bar *w*, to which the pole-chains are attached, is made detachable from the pole. The pole is at its front end furnished with a tube, *g*, that receives within it a stem, *3*, at- 100 tached to the cross-bar *w*. Two springs, *4* and *5*, fastened inside of tube *g*, catch into recesses or grooves formed in pin *3* when pushed into the tube, and keep it in position as long as the horses are harnessed to the carriage. As soon,

however, as the horses are released and depart from the carriage, by means of the pole-chains the pin 3 is drawn out of tube *g*, and the horses consequently at same time released from the pole and fully free from the carriage.

By a prolongation, *y*, Figs. 1 and 2, the rack *D* may be moved from a hind seat or from inside the carriage, as convenient.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with the carriage-body and front running-gear, and the king-bolt having fast to it a pinion, of the hollow single-tree, the longitudinally-moving trace-connecting rod within said single-tree, lever-connections, substantially as herein described, between the said rod and the king-bolt, and a

movable rack gearing with said pinion for the purpose of turning the king-bolt, substantially as herein set forth.

2. The combination, with the pole and the tube *g*, and springs 4, attached to the head thereof, of the cross-bar *g*, having a stem, 3, in which are recesses for the engagement of the said springs, substantially as and for the purpose herein described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 12th day of August, 1885.

JACOB FRIEDRICH CHRISTIAN JÜRGENSEN.

Witnesses:

DIEDRICH PETERSEN,
HERMANN GARTEN.