

No. 695,567.

Patented Mar. 18, 1902.

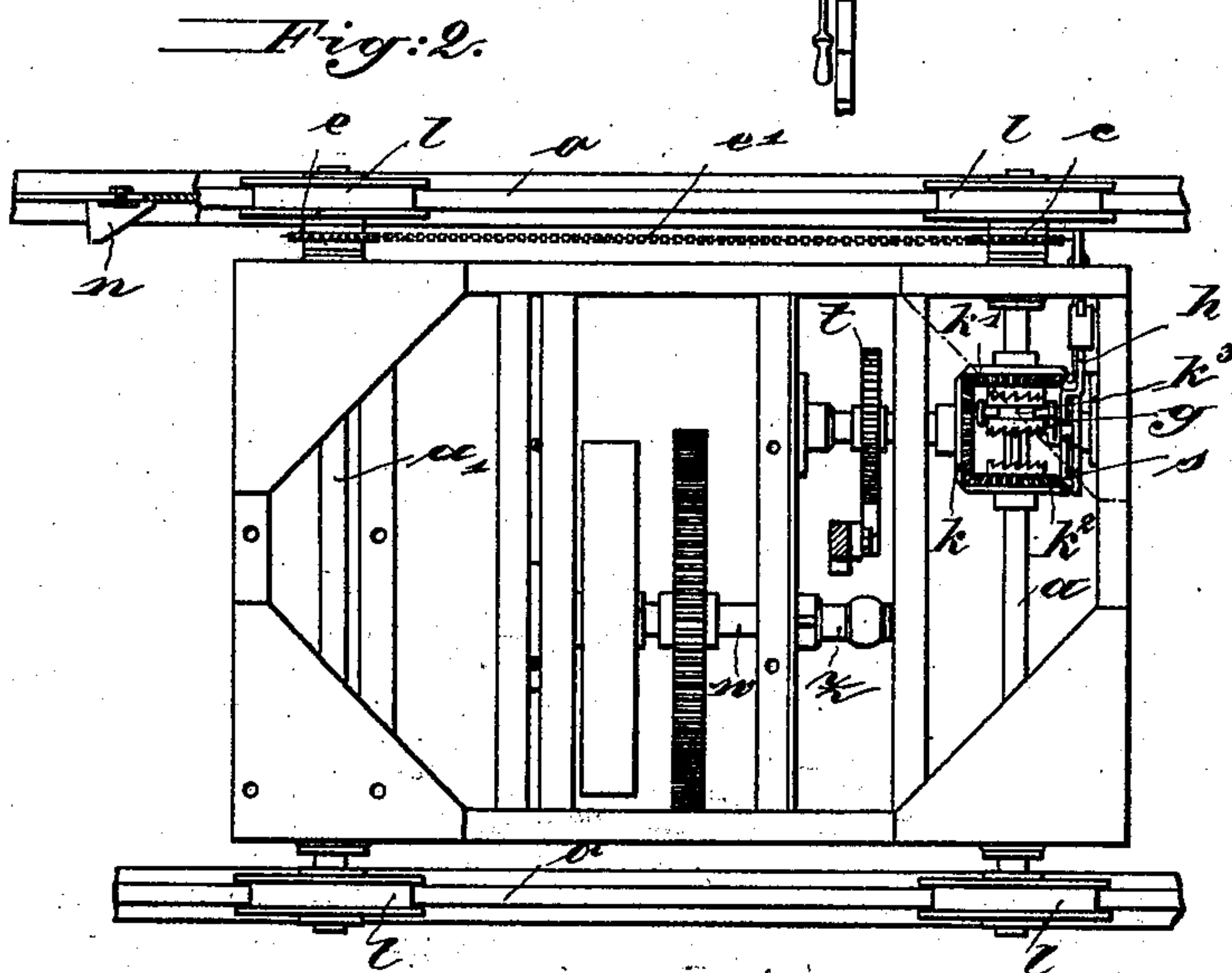
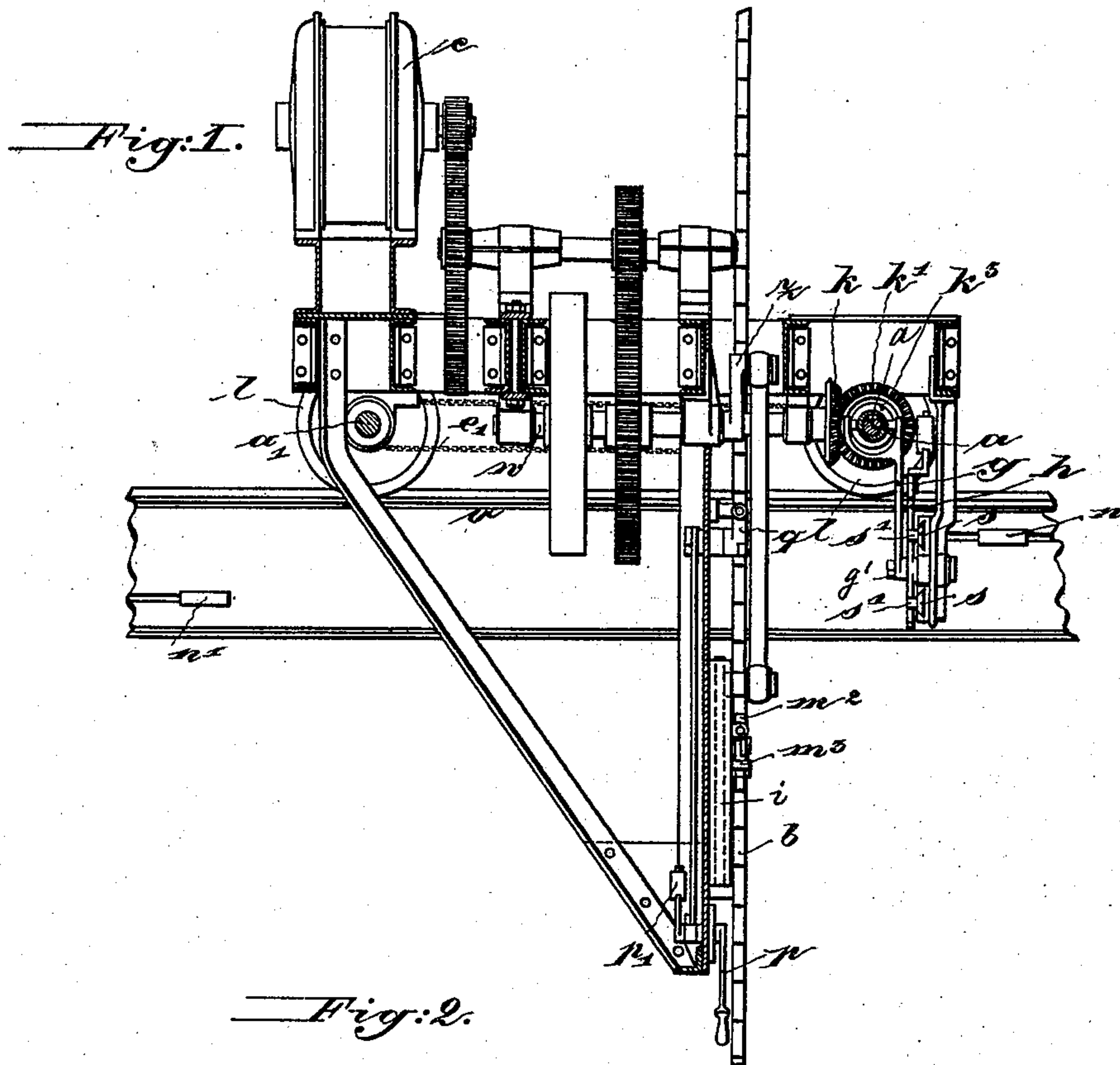
R. KUHN.

MACHINE FOR STAMPING COAL.

(Application filed Jan. 24, 1901.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:
John Hickman.
William Schuly.

Inventor:
Rudolf Kuhn
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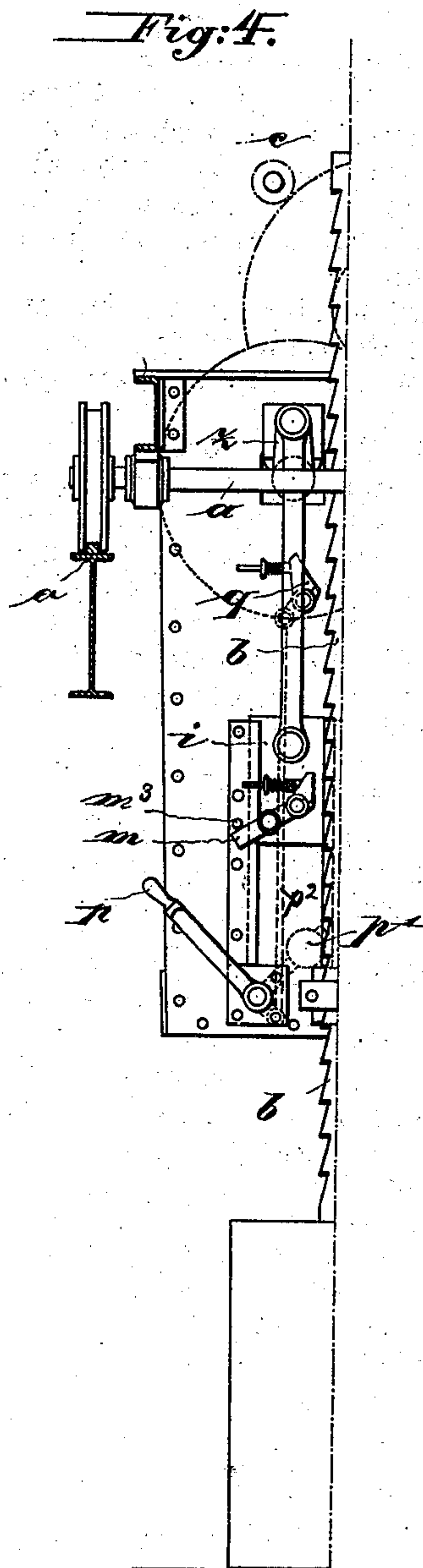
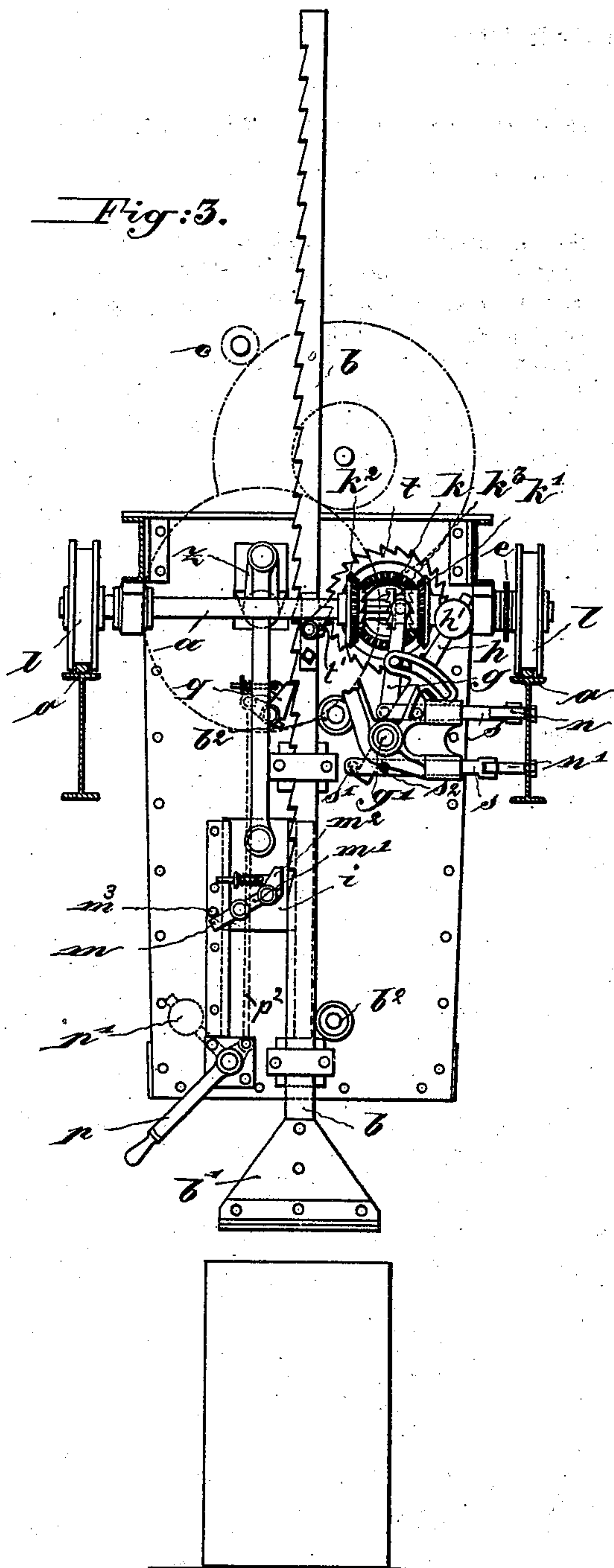
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2 Sheets—Sheet 2.



Witnesses:
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Inventor:
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UNITED STATES PATENT OFFICE.

RUDOLF KUHN, OF BRUCK, GERMANY.

MACHINE FOR STAMPING COAL.

SPECIFICATION forming part of Letters Patent No. 695,567, dated March 18, 1902.

Application filed January 24, 1901. Serial No. 44,494. (No model.)

To all whom it may concern:

Be it known that I, RUDOLF KUHN, a citizen of Germany, and a resident of Bruck, Westphalia, Germany, have invented certain new and useful Improvements in Machines for Stamping Coal, of which the following is a specification.

My invention refers to an improved machine for the stamping of coal, and is illustrated by the drawings accompanying this application.

Figure 1 of the drawings is a side view of the improved apparatus. Fig. 2 is a ground plan of the same; Fig. 3, an end view; and Fig. 4, an end view of part of the same, showing the stamping-shaft in a changed position.

The characteristics of the new machine are the mechanism for raising the stamper and the arrangement for moving the frame carriage or stand.

With my improved apparatus the coal will be stamped in removable (exchangeable) boxes of an oblong narrow shape in the ordinary way, the boxes being filled by pouring in the coal slowly during the work. As usual, the stamper is attached to a carriage frame or stand, which can be moved forward and back on a rail. The mechanism admits a change of the height from which to drop the stamper and also for holding it in a raised position, the stamper working self-acting at different heights, according to the level of the material poured into the box. In the example which is illustrated by the aforementioned drawings an electromotor *c* (indicated in Fig. 1) sets the shaft *w* into motion by means of belts or cogged wheels. (Indicated in Fig. 3 by dotted lines.) On axles *a a'*, which are provided with chain-wheels *e* and connected with each other by a chain *e'*, there are rollers *l*, supported upon the rails *o*, and the turning right and left of the axles *a a'* will cause the stamping mechanism to move forward and backward on the rails. The moving of the frame with the stamper is self-acting simultaneously with the raising of the latter, a pawl *t'* catching into the cogged wheel *t*. The axle of the latter has a beveled wheel *k*, which is engaged by the beveled wheels *k' k''*, loosely attached to the axle *a* of the carriage-wheel. The hubs of the wheels *k' k''* are provided with teeth, which are alternately engaged by the

coupling-disk *k''*, arranged between the two wheels. The coupling-disk is movable along shaft *a*, an independent rotation of the same on the axle *a* being prevented, however, by a feather and groove or something similar. As the one or the other of the wheels *k' k''* is being connected with the coupling-wheel *k''* the axle *a* will be rotated to the right or left with the carriage-wheels and the frame, with the stamper, will be moved in the one or other direction. The engaging and disengaging of the wheels *k' k''* are done by the lever *h*, provided with a tilting weight, and putting in motion the disengaging-fork *g*, turnable at the point designated by *g'*. The moving of the lever *h* may be done by hand, or it may be effected by the oblique noses *n n'*, attached to one of the rails *o*, as shown by the example on the drawings. The sliders *s* on the carriage-frame strike the noses and move the sliders when the frame has almost finished its movement in the one or other direction. By means of the pins *s' s''* the sliders will at the same time take along the lever *h* until it upsets on account of the weight *h'*. By this action the lever *h*, which engages by a pin in a slot of the lever *g*, connected with the coupling-fork, will shift said lever *g*. The arrangement of the tilting-weight lever causes a quick reversal of the travel of the carriage. The noses *n n'* are adjustable, so that the reversed movement can be made earlier or later, according to the length of the boxes.

The shaft *w* has a crank-pin *z*, which moves the sliding piece *i* in straight direction up and down. The sliding piece bears a carrier consisting of a double-armed lever *m m'*, of which the arm *m* or a ratchet *m''*, attached thereto, engages in a cogged bar *b* of the stamper *b'*, conducted by rollers *b''* in such a way that the stamper is lifted together with the sliding piece. When the outward-pointing arm *m* of the carrier hits the stop *m''*, the carrier *m''* becomes disengaged and permits the stamper to drop. If the stop *m''* is made adjustable at some height, the dropping height of the stamper may be changed by placing the stop at a higher or lower level. When the crank-pin *z* turns around, or rather the sliding piece *i* goes down again, the carrier will engage again into the cogging of the stamper dropped down, and in rising cause

a new lifting of the stamper until the latter will be made to descend by pushing the carrier against the stop m^3 . The frame having been moved somewhat forward in the meantime by the pushing device for the rollers l , as hereinbefore described, the stamper will hit another spot of the material intended to be stamped.

If the receptacle when filled is to be removed, the stamper will be raised and kept in its elevated position. For this purpose the lever p is connected by rod p^2 to a latch q , which will prevent the dropping of the stamp. The lever, and consequently the whole mechanism and the latch, will be kept in both their positions by the tilting weight p' . The latch engaged in the cogging admits the lifting of the stamper when the crank-pin z and the sliding piece i are going up, but it does not allow its dropping. After a few rotations of the crank the stamper will have arrived at its highest position. In the absence of any cogging at the bottom of the bar b the carrier m^2 cannot engage such lower end and a too high raising of the stamper is thereby avoided.

What I claim is—

1. In a coal-stamper, the combination of a carriage, with a vertically-movable slide carried thereby, a drop-plunger, means for removably connecting said plunger to the slide, means for releasing the plunger from the

slide, and means for propelling the carriage by the movement of the plunger, substantially as specified.

2. In a coal-stamper, the combination of a carriage, with a vertically-movable slide carried thereby, a drop-plunger, means for removably connecting said plunger to the slide, means for releasing the plunger from the slide, a pawl-and-ratchet mechanism that transmits motion from the plunger to the carriage, and means for reversing the motion of the carriage at the ends of its race, substantially as specified.

3. In a coal-stamper, the combination of a vertically-movable slide having a pawl, with a plunger having a rack adapted to be engaged by the pawl, means for releasing the rack from the pawl, a carriage from which the plunger is suspended, a pawl and ratchet-wheel that connect the plunger to the carriage, a pair of bevel-wheels operated by the ratchet-wheel, a clutch for coupling either one of said wheels to the carriage-axle, and means for automatically setting said clutch at the ends of the carriage-race, substantially as specified.

Signed by me at Dusseldorf, Germany, this 1st day of November, 1900.

RUDOLF KUHN.

Witnesses:

WM. ESSENWEIN,
P. LIEBER.