

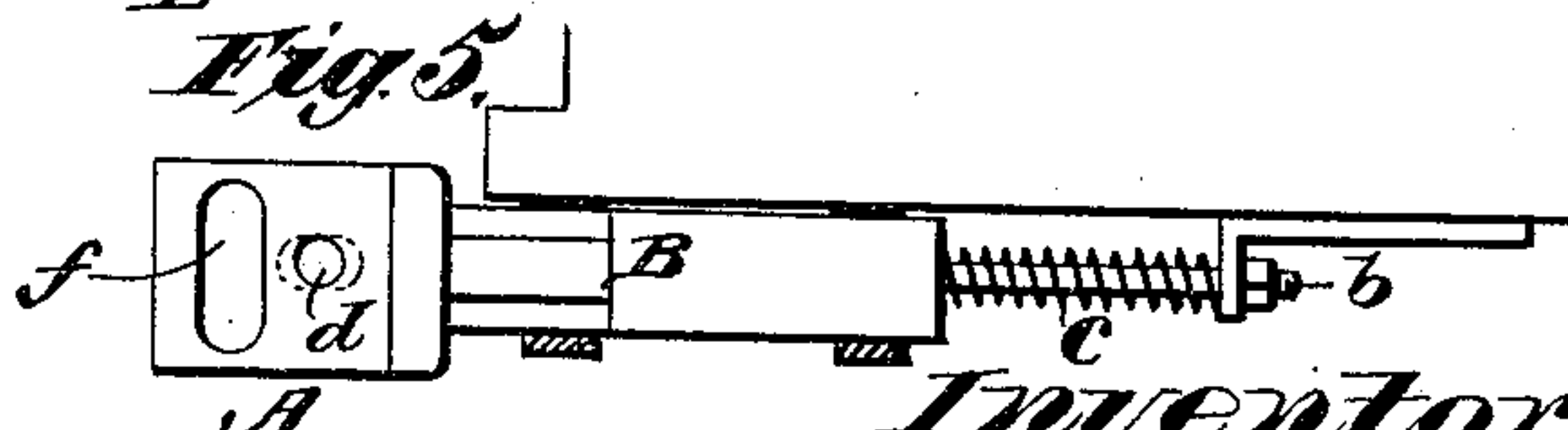
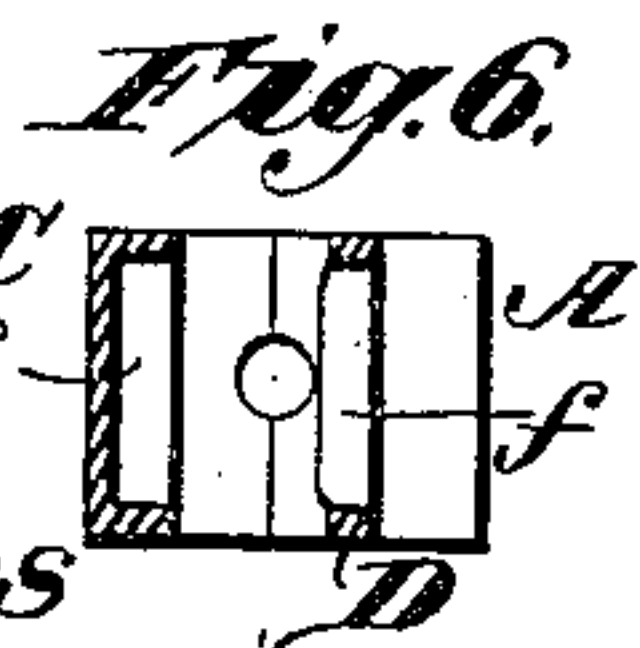
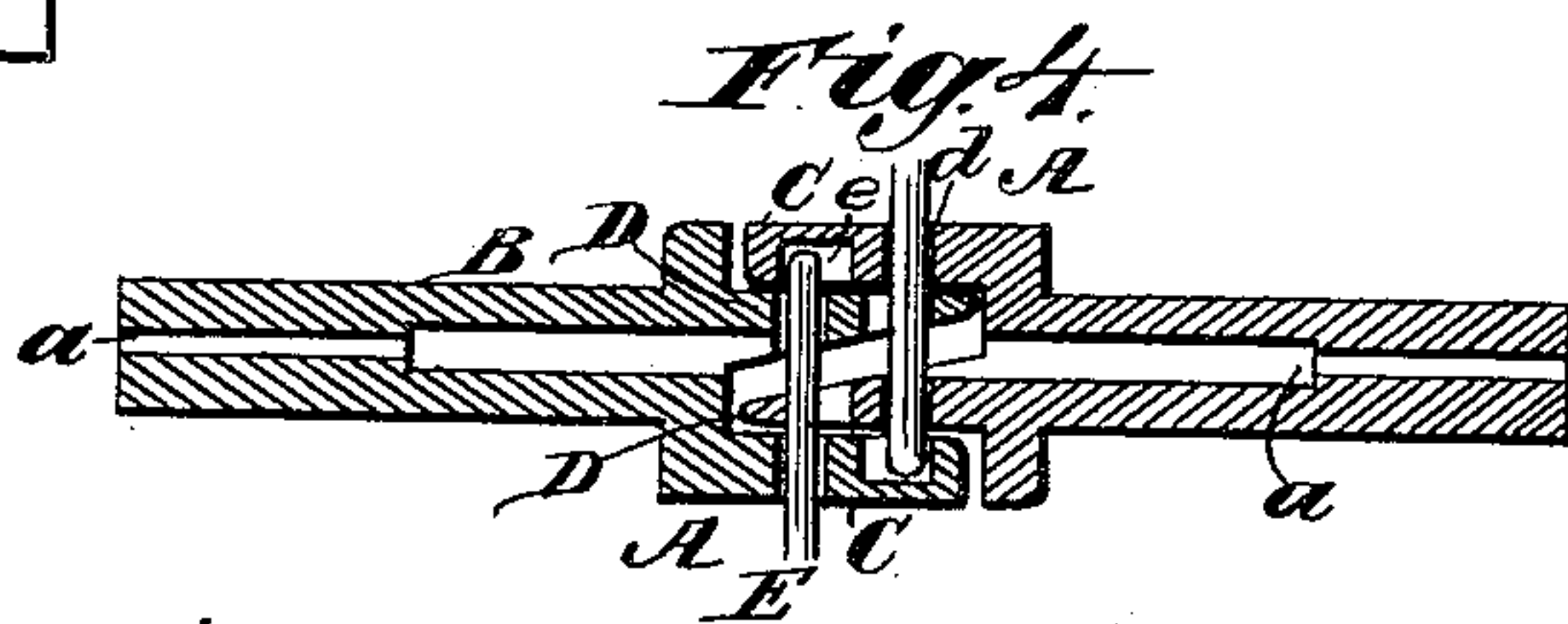
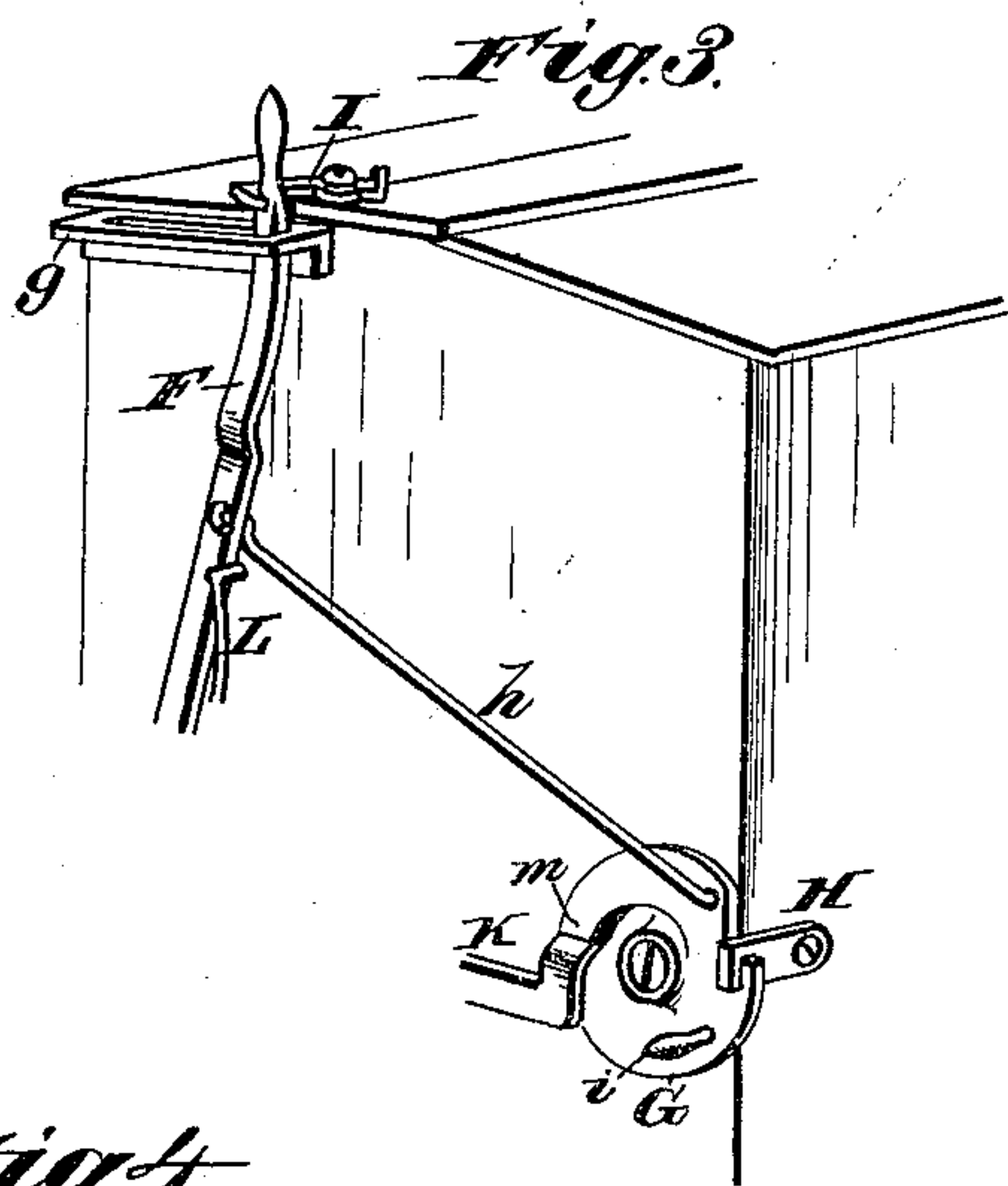
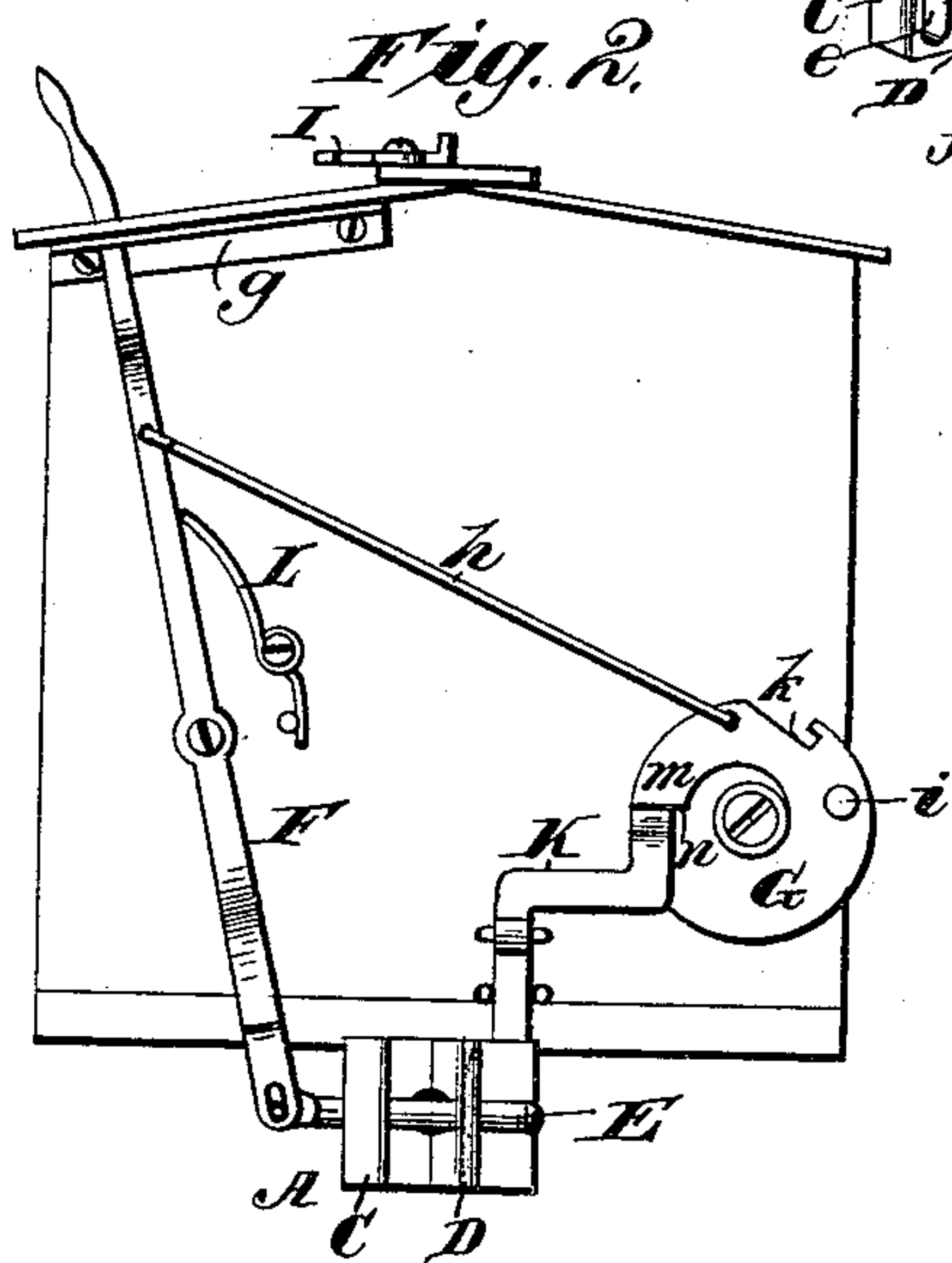
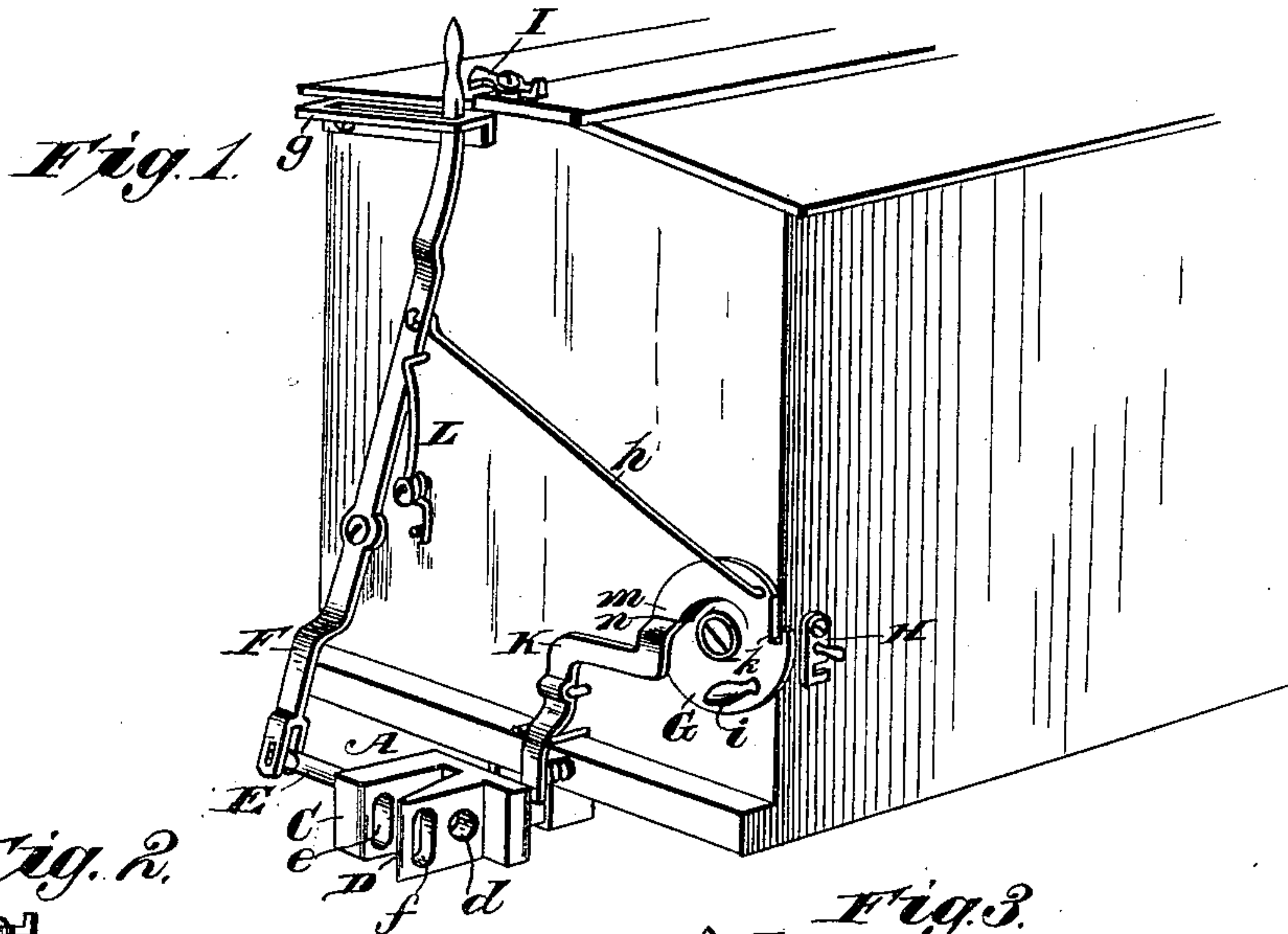
(No Model.)

E. G. SESSIONS.

CAR COUPLING.

No. 353,974.

Patented Dec. 7, 1886.



Witnesses
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UNITED STATES PATENT OFFICE.

EGBERT G. SESSIONS, OF RICE, TEXAS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 353,974, dated December 7, 1886.

Application filed June 12, 1886. Serial No. 204,990. (No model.)

To all whom it may concern:

Be it known that I, EGBERT G. SESSIONS, a citizen of the United States, residing at Rice, in the county of Navarro and State of Texas, have invented new and useful Improvements in Car-Couplings, of which the following is a specification.

This invention relates to improvements in that class of car-couplings in which the opposite draw-heads are detachably connected by means of a horizontally-slidable coupling pin or pins.

My invention consists in the combination, with a yielding draw-head having a horizontally-movable coupling-pin and a pivoted lever connected to said pin, of a rotatable latching-plate connected with said lever by a rod or chain, a spring for acting on the pin-lever, and a spring-catch for engaging the latch-plate, said catch and latch-plate being disengaged by the pressure of the draw-head in the act of coupling, thereby releasing the retracted coupling-pin and allowing it to automatically engage the opposite draw-head.

The invention further consists in certain peculiarities in the construction and combination of parts hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a perspective view of one end of a box-car provided with my improved automatic coupling attachments. Fig. 2 is an end view of the same, showing the position of the horizontally-movable pin and its connections when the car is coupled. Fig. 3 shows the pin-lever and rotatable latch-plate engaged with their locking devices to prevent the coupling-pin from engaging a contacting draw-head when two adjoining cars are not to be coupled. Fig. 4 is a horizontal section of the coupled draw-heads. Fig. 5 is a side elevation of my improved draw-head. Fig. 6 is a cross-section of the same.

The letter A designates a yielding draw-head, which is made substantially like that shown in my Letters Patent No. 338,107, dated March 16, 1886. This draw-head is provided with a rear extension, B, and with forward projections, C and D. The body of the draw-head and its rear extension, B, are pro-

vided with a longitudinal perforation, *a*, for passage of the draft-rod *b*, the inner end of which is supported in a hanger beneath the car, and on this rod *b* is a spirally-coiled spring, *c*, as usual. One of the forward projections, as C, is rectangular in form, and is preferably located so as to form one side of the draw-head. The other forward projection, as D, is wedge-shaped, and is located near the opposite side of the draw-head. The outer side of this wedge-shaped projection D is parallel with the rectangular projection C, and its inner side is inclined or tapered forward.

By referring to Fig. 4 it will be seen that the space between the projection C D is of such extent and shape as to admit the wedge-shaped projection D of the opposite draw-head when the cars provided with such draw-heads are brought together, while the rectangular projections C C of the respective draw-heads occupy an external position.

In the inner end of each draw-head projection C and D is formed an enlarged perforation, *d*, for passage of a horizontally-slidable coupling-pin, E, pertaining to and carried by said draw-head. The outer end of the rectangular projection C is provided on its inner side with a vertically-elongated recess, *e*, and the outer end of the wedge-shaped projection D has a corresponding vertically-elongated slot, *f*, for passage of the horizontal coupling-pin carried by the opposite draw-head.

By recessing the projection C, instead of slotting it, a sufficient bearing will be afforded for the end of the coupling-pin without impairing the strength of the projection.

When the opposing draw-heads are engaged, the coupling-pins E E are passed horizontally through the interlocking projections C D from opposite sides of the draw-heads, each pin being engaged in the enlarged perforations *d d* of one draw-head and in the vertical slot *f* and vertical recess *e* of the other draw-head. The perforations *d d* are preferably somewhat elongated in a horizontal direction to allow the pins E E to have a forward and back play with the yielding horizontal movements of the draw-head to which they are attached, the vertical slot *f* and recess *e* of each draw-head being also of such width as to permit a free play of

the coupling-pin carried by the opposite draw-head. A firm and steady draft is thus secured, and at the same time the coupling-pins have sufficient play to enable the cars to turn curves readily without liability of derailment.

It will be observed that the vertically-elongated recess *e* and vertical slot *f* in each draw-head allows the horizontal pin carried by the opposite draw-head to have an up and down movement, so as to facilitate the coupling of cars having draw-heads of unequal heights.

Each coupling-pin *E* is pivoted in the lower bifurcated end of a lever, *F*, which is pivoted either to the end of the car or to the platform-rail, a guide, *g*, being provided for the upper end of said lever, if desired. This lever *F* is connected by a chain or rod, *h*, to a rotatable latch-plate, *G*, which is pivoted to one corner of the car within easy reach from the ground.

The rotatable latch-plate *G* has a handle, *i*, by which it can be turned, and it also has a peripheral notch, *k*, and an inclined face projection, *m*, the under side of which forms an abrupt shoulder or catch. The notch *k* in the periphery of the pivoted plate *G* is adapted to engage a hook-catch, *H*, pivoted to the side of the car, thereby locking the latch-plate in such position as to render the withdrawn coupling-pin inoperative. The retracted coupling-pin can also be held in an inoperative position by means of a hook-catch, *I*, pivoted to the top of the car and adapted to engage the upper end of the pin-carrying lever.

To the end of the car immediately in rear of the yielding draw-head, and beneath or near the inner edge of the rotatable latch-plate *G*, is attached a spring-catch, *K*, for engaging the shoulder *n*, at the lower end of the inclined projection *m* on the face of said latch-plate. The lower end of this catch *K* rests against a spring, *p*, of any suitable material, set in a recess formed in the end of the car-frame, the depth of said recess being sufficient to permit the lower end of the catch *K* to move inward under pressure of the yielding draw-head, and so throw the upper end of said latch outward and disengage it from the rotatable latch-plate *G*, thereby allowing the latter to rotate under the pressure of a spring, *L*, against the lever *F*, which is thus made to move the coupling-pin *E* automatically inward and into engagement with the contacting draw-head.

It will be seen that when the catches *H* and *I* are disengaged from the latch-plate *G* and lever *F*, respectively, and said latch-plate engaged only with the spring-catch *K*, the coupling-pin *E* will be held in a withdrawn position, ready for coupling. If two cars with coupling attachments so arranged are now brought together, the concussion of the draw-heads will cause them to yield sufficiently to come in contact with the lower ends of the spring-catches *K*, pressing the same inward and disengaging their upper ends from the shoulders *n* on the respective latch-plates

G, so as to allow the levers *F* to be actuated by their springs *L*, and thus carry the horizontally-movable coupling-pins *E* into automatic engagement with the interlocking draw-heads. In order to uncouple the cars, it is only necessary to turn the rotatable latch-plates *G* outward by means of their handles *i*, the inclined face projections *m* riding under the upper ends of the catches *K* until the latter come into engagement with the shoulders *n* under the outward pressure of the springs *p* at the lower ends of said catches. The outward rotation of the plates *G* draws on the rods *h*, thereby moving the upper ends of the levers *F* inward against the pressure of their springs *L*, and so retracts the coupling-pins and disengages the cars. If it is now desired to lock the coupling-pins, so that they will remain inactive and prevent coupling in case the cars should be moved in contact with each other, it is only necessary to turn the catches *H* and *L*, either or both, into engagement with the latch-plates *G* and levers *F*, respectively. By means of the levers *F* and rotatable latch-plates *G*, the cars can thus be readily uncoupled, either from the side or top, without danger, and the coupling pins then locked to prevent accidental coupling, if desired; and it is evident that the relative position of the levers *F*, latch-plates *G*, and their fastenings *H* and *I* will indicate at a glance whether the coupling-pins are in a normal operative condition or not, thus avoiding much trouble in inspecting the cars preparatory to coupling.

What I claim as my invention is—

1. In an automatic car-coupling, the combination, with interlocking draw-heads and a pivoted lever carrying a horizontally-slidable coupling-pin, of a rotatable latch-plate connected with said lever, a spring-catch for engaging said latch-plate, said catch and latch-plate being disengaged by pressure of the yielding draw-head in the act of coupling, and a spring for actuating the released lever, thereby moving the horizontal pin of one draw-head into engagement with the opposite draw-head, substantially as described.

2. The combination, with a yielding draw-head and a horizontally-slidable coupling-pin, of a swinging spring-pressed vertically-arranged lever pivoted intermediate its ends and connected at its lower end with the coupling-pin, a catch-plate rotatable in a vertical plane at one end of the car and connected with the lever above the pivot thereof, and a pivoted spring-catch having one end engaging the catch-plate, at its other end engaging the draw-head, substantially as described.

3. The combination, with draw-heads having forward projections, *CD*, provided at their inner ends with perforations *d* and at their outer ends with a vertically-elongated recess, *e*, and a vertically-elongated slot, *f*, respectively, of horizontally-movable coupling-pins

E E, spring-actuated levers F F, carrying said pins, and means for locking said levers, substantially as described.

and the spring-catches K K, engaging said latch-plates, substantially as described. 10

In testimony whereof I affix my signature in presence of two witnesses.

E. G. SESSIONS.

Witnesses:

JAMES L. NORRIS,

JOS. L. COOMBS.

5 4. The combination of the yielding interlocking draw-heads A A, horizontally-movable coupling-pins E E, spring-actuated levers F F, carrying said pins, movable latch-plates G G, rods h h, connecting said levers and latch-plates,