

(No Model.)

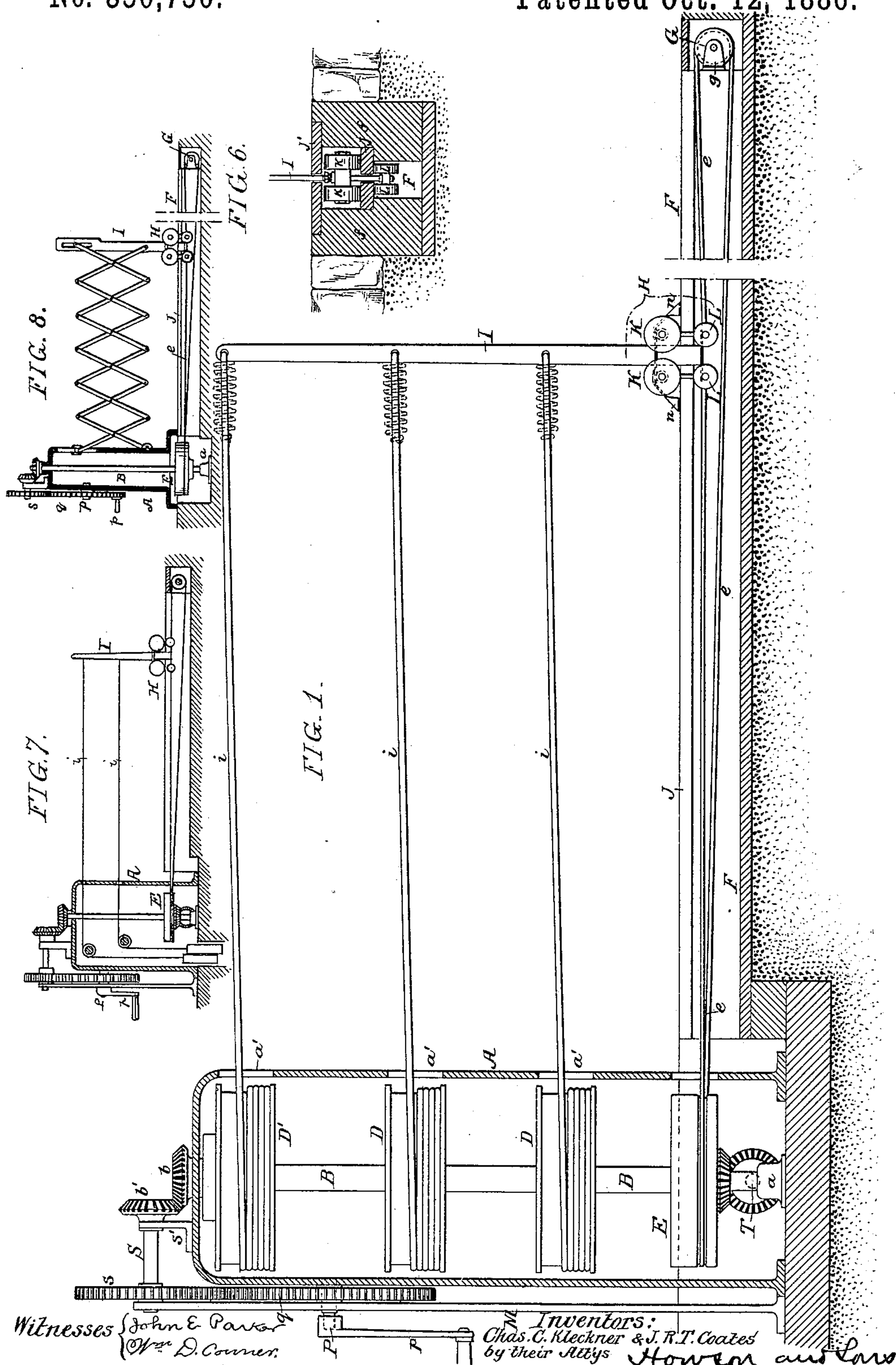
2 Sheets—Sheet 1.

C. C. KLECKNER & J. R. T. COATES.

RAILROAD CROSSING GATE.

No. 350,750.

Patented Oct. 12, 1886.



(No Model.)

2 Sheets—Sheet 2.

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FIG. 2.

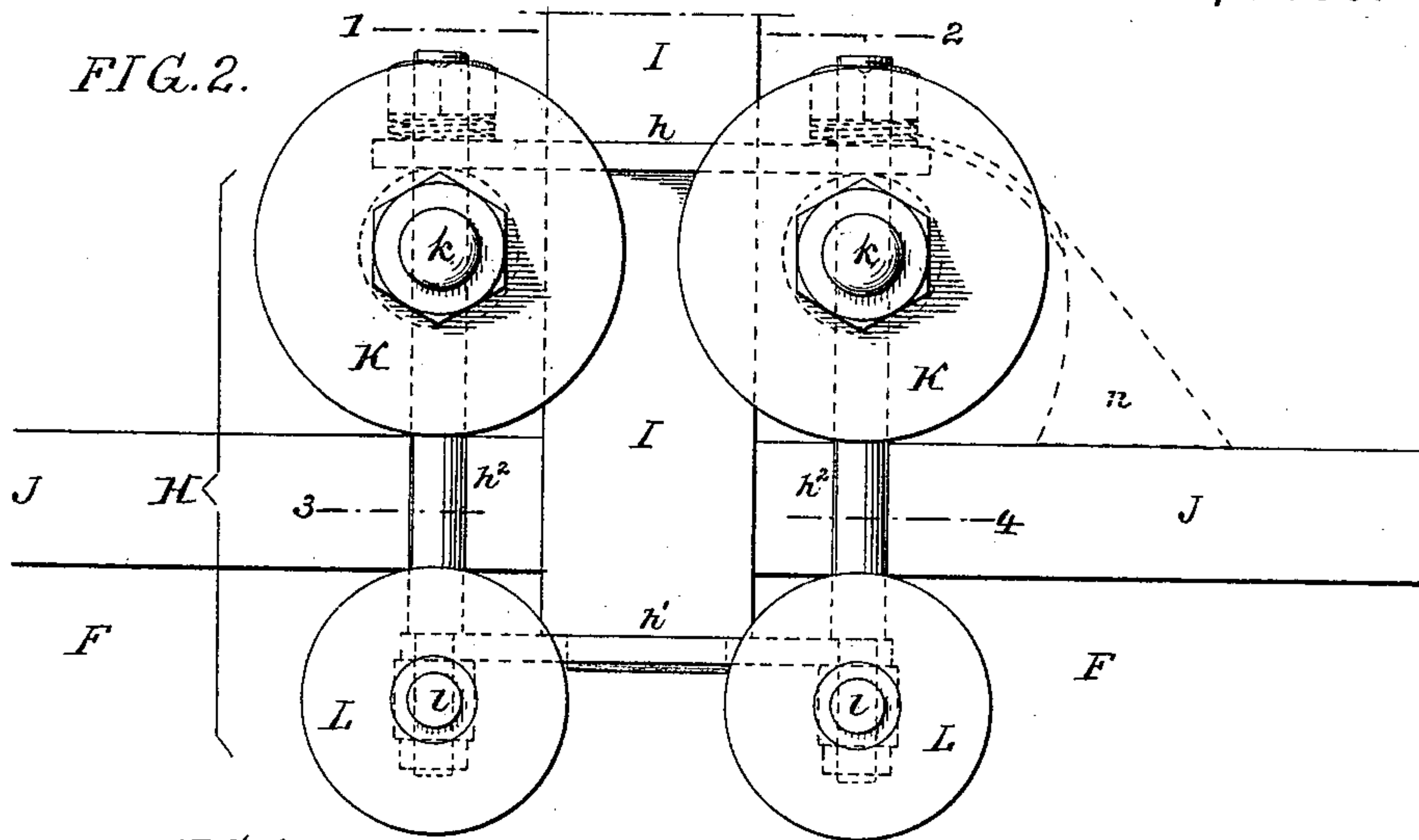


FIG. 4.

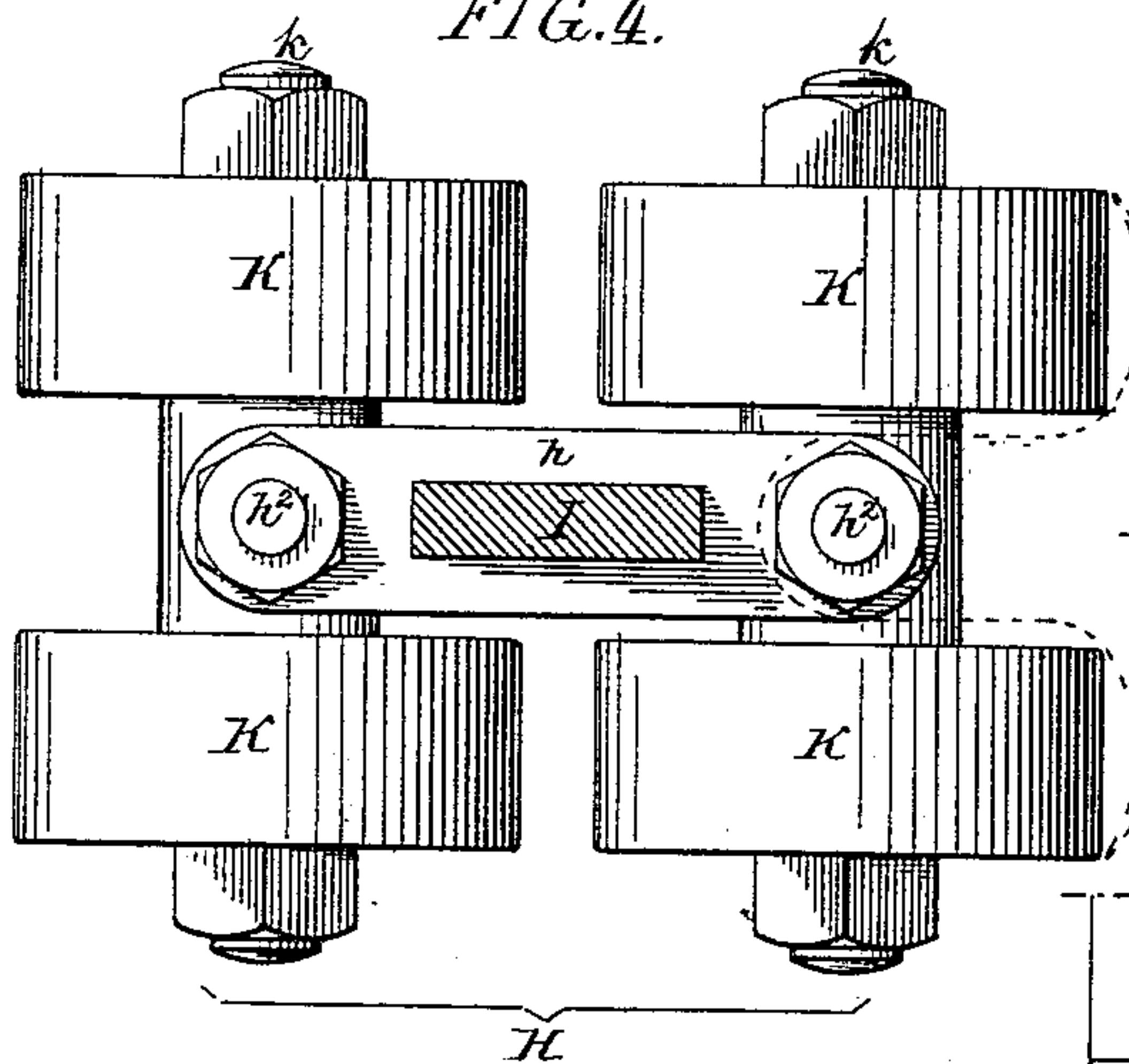


FIG. 5.

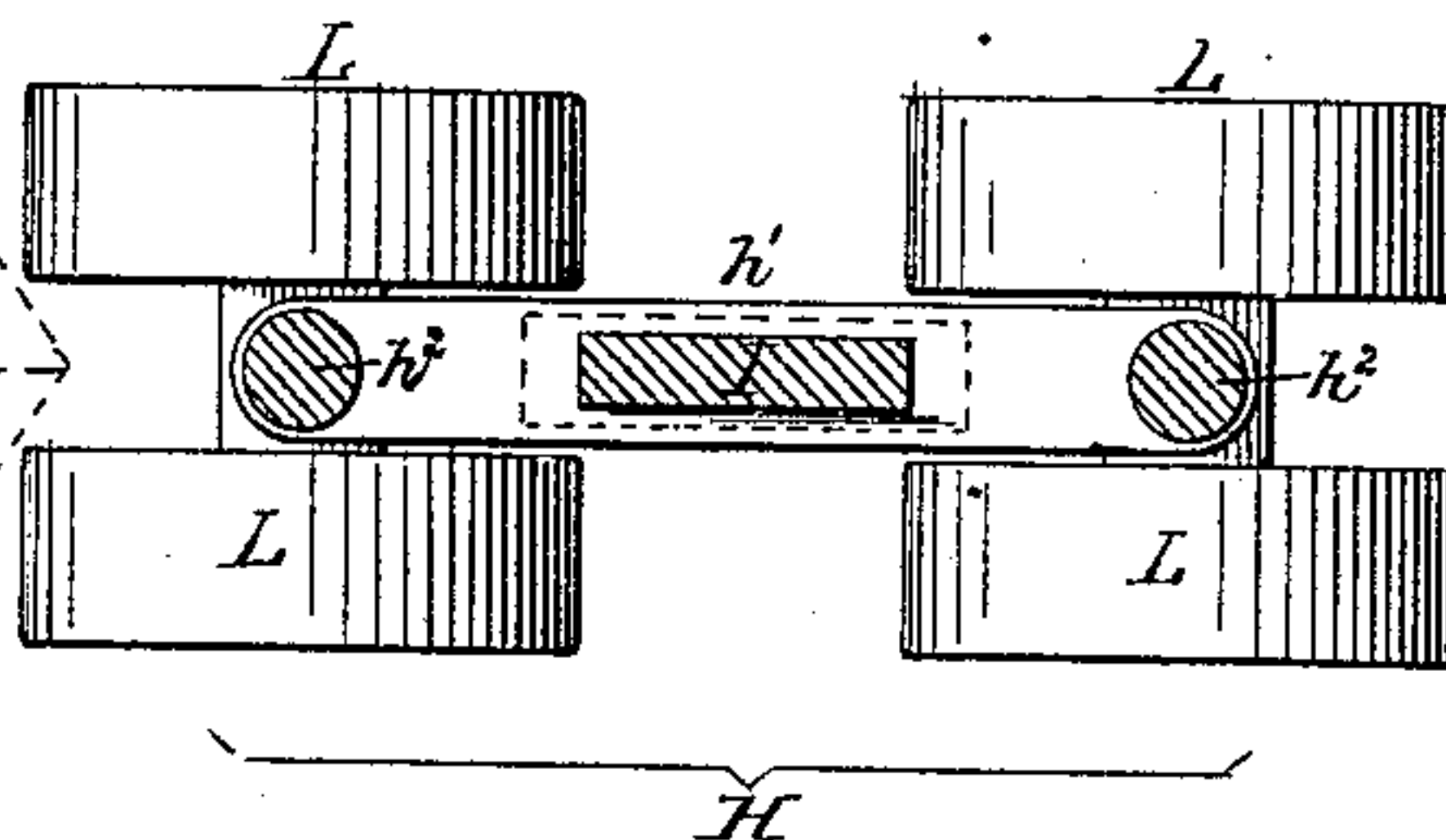
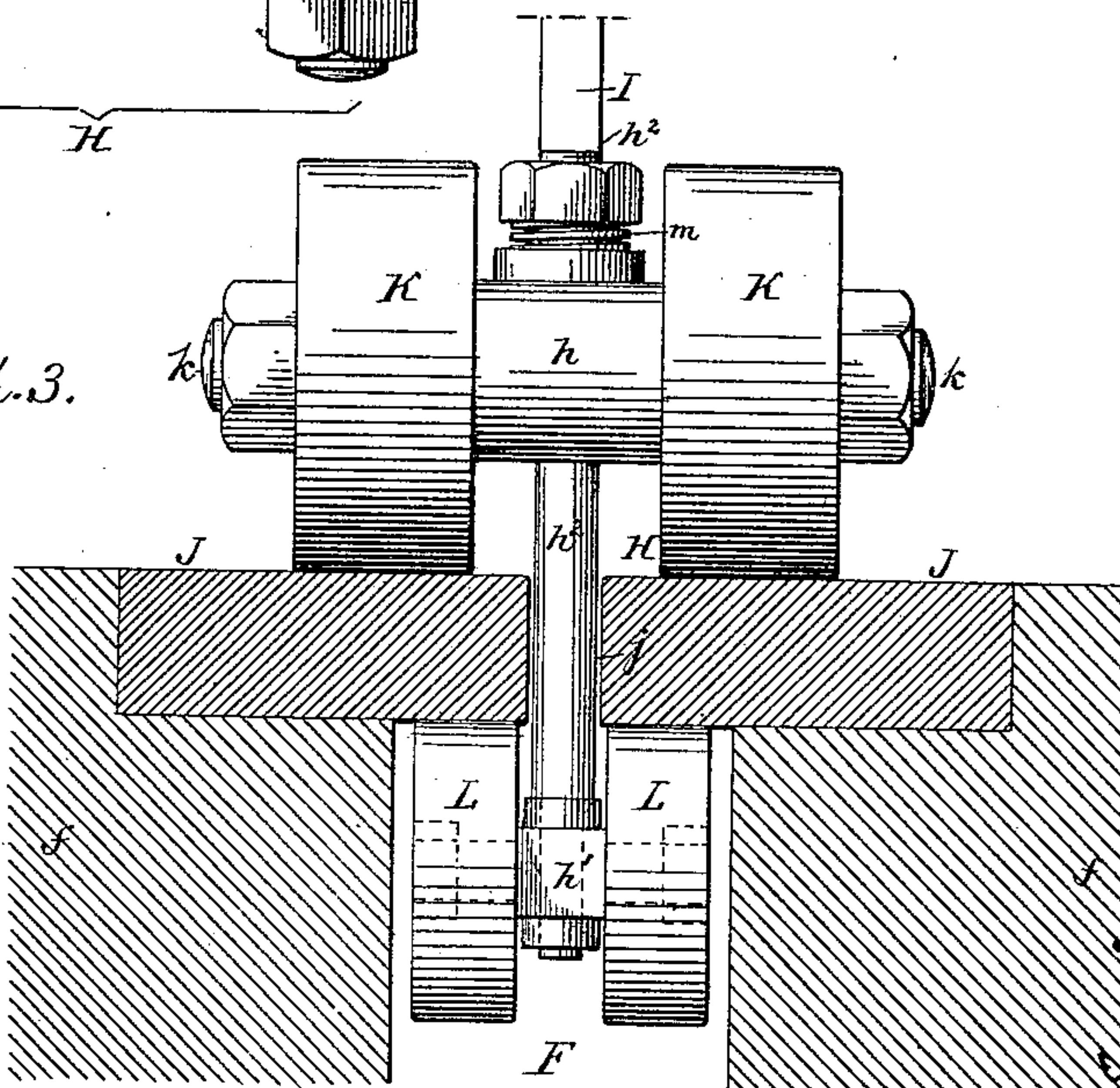


FIG. 3.



Witnesses:
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Joseph R. T. Coates
by their Attorneys
Horton and Co.

UNITED STATES PATENT OFFICE.

CHARLES C. KLECKNER AND JOSEPH R. T. COATES, OF CHESTER, PA.

RAILROAD-CROSSING GATE.

SPECIFICATION forming part of Letters Patent No. 350,750, dated October 12, 1886.

Application filed July 2, 1886. Serial No. 206,941. (No model.)

To all whom it may concern:

Be it known that we, CHARLES C. KLECKNER and JOSEPH R. T. COATES, citizens of the United States, both residing in Chester, Delaware county, Pennsylvania, have invented certain Improvements in Railroad-Crossing Gates, of which the following is a specification.

The object of our invention is to construct a cheap, neat, and easily-operated gate, which, when extended, will form a guard of a more effective character than the single bar usually employed.

In the accompanying drawings, Figure 1 is a side view of our improved gate partially extended, and showing the roadway and permanent standard in section. Fig. 2 is an enlarged side view of a truck forming part of the gate. Fig. 3 is an end view of the truck, with the roadway in section. Fig. 4 is a sectional plan on the line 1 2, Fig. 2. Fig. 5 is a sectional plan view on the line 3 4, Fig. 2; and Figs. 6, 7, and 8 are views of modifications of our invention.

A fixed standard or casing, A, situated at one side of the roadway and resting on suitable foundations, contains a vertical shaft, B, which has its upper bearing in the casing and its lower bearing in a step, *a*. On this shaft B are several drums, D, and at its lower end, below the surface of the roadway, is a pulley, E, around which passes a belt, *e*. This belt passes through a conduit, F, extending beneath the surface from one side of the roadway to the other, the conduit having at the outer end a pulley, G, which also receives the belt *e*, and is journaled in bearings *g*, secured to the side beams, *f f*, of the conduit, these bearings, if desired, being adjustable, so as to permit the taking up of the slack in the belt. The opposite ends of the belt *e* are secured to a truck, H, from which extends a vertical stanchion, I, secured to which at suitable intervals are the outer ends of ropes, chains, or bands *i*, preferably wire ropes, which pass through guide-slots *a'* in the casing A and around the drums D, to which their inner ends are secured.

The truck H is composed of an upper frame, *h*, and a lower frame, *h'*, one above the top rails, J, of the conduit and the other beneath the same, the slot *j* between the side rails receiving the tie-rods *h²* and the lower portion of the stanchion I, which connects together the

upper and lower frames of the truck. The upper frame, *h*, of the truck has studs *k*, on which are journaled the upper wheels, K, preferably of large diameter, and the lower frame, *h'*, has studs *l* for the lower wheels, L, which are of smaller diameter. The wheels K and L bear firmly on the upper and lower sides of the rails J J, and thus serve to guide and steady the stanchion I as it is drawn in or out.

In large gates the wheels of the truck may be spread apart, so as to increase the lateral area of the wheel-base to an extent dependent upon the height of the stanchion and the weight of the ropes *i*. Springs *m* are placed between the nuts on the bolts *h²* and the upper frame, *h*, to permit the upper wheels to yield vertically, so as to pass over any unevenness in the rails or any accumulations of dirt thereupon.

We provide the truck with clearing-plates *n*, preferably in front and rear of the truck, in order to clear from the rails J J any large obstructions. (See dotted lines, Fig. 4.)

The upright shaft B is driven, in the present instance, by a hand-crank, *p*, on a shaft, P, which has its bearings in the casing A and in an upright, M. The shaft P has a spur-wheel, *q*, which gears with a spur-pinion, *s*, on a shaft, S, having its bearings in the upright M and a bracket, *s'*. On the end of the shaft S is a bevel-wheel, *b'*, which meshes with a bevel-pinion, *b*, on the shaft B. Thus by turning the crank *p* in one direction the truck, with its stanchion, will be drawn across the roadway, the ropes *i* being unwound from the drum D, and by reversing the movement the truck will be returned to its original position, the ropes being again wound upon the drums.

When necessary, a duplicate of the mechanism shown can be set up on the opposite side of the railroad-track, and a cross-shaft, T, Fig. 1, may be geared to the shaft B and pass under the track, so that when the crank *p* is turned both devices will be operated simultaneously.

The rails J J may be below the level of the roadway, as shown in Fig. 6, and guard-plates J' may be placed above the truck, this construction being especially intended for streets having horse-railways, in which case the rails must be slotted for the passage of the stanchions.

Instead of making the guards of flexible ropes connected to the movable stanchion and adapted to drums in the fixed standard, a sys-

tem of lazy-tongs levers may be substituted therefor, as illustrated in Fig. 8, or the ropes may be passed over pulleys in the fixed standard and connected to a weight contained in a
5 suitable pit, as will be readily understood by reference to Fig. 7.

We claim as our invention—

1. The combination of the fixed standard at one side of the roadway, a movable stanchion
10 having a truck, guards connected to the movable stanchion and fixed standard and capable of contraction and expansion, a slotted conduit crossing the roadway and having top plates forming guides for the truck, and mechanism
15 contained in said conduit for projecting and retracting the movable stanchion, the latter being connected directly to said operating mechanism, all substantially as specified.

2. The combination of the fixed standard at
20 one side of the roadway, a movable stanchion having a supporting-truck, guards connecting the movable stanchion to the fixed standard and capable of expansion and contraction, a

conduit crossing the roadway, an endless rope or band connected to the movable stanchion 25 and contained within said conduit, and pulleys for supporting and driving said rope or band, all substantially as specified.

3. The combination of the fixed standard at one side of the roadway, a movable stanchion 30 having a supporting-truck, a shaft contained within the fixed standard and having a series of drums, flexible guards wound on said drums and connected to the movable stanchion, and mechanism, substantially as described, where- 35 by the stanchion is projected or retracted by the turning of the drum-shaft, all substantially as specified.

In testimony whereof we have signed our names to this specification in the presence of 40 two subscribing witnesses.

CHARLES C. KLECKNER.

JOSEPH R. T. COATES.

Witnesses:

JOSEPH H. KLEIM,

HENRY HOWSON.