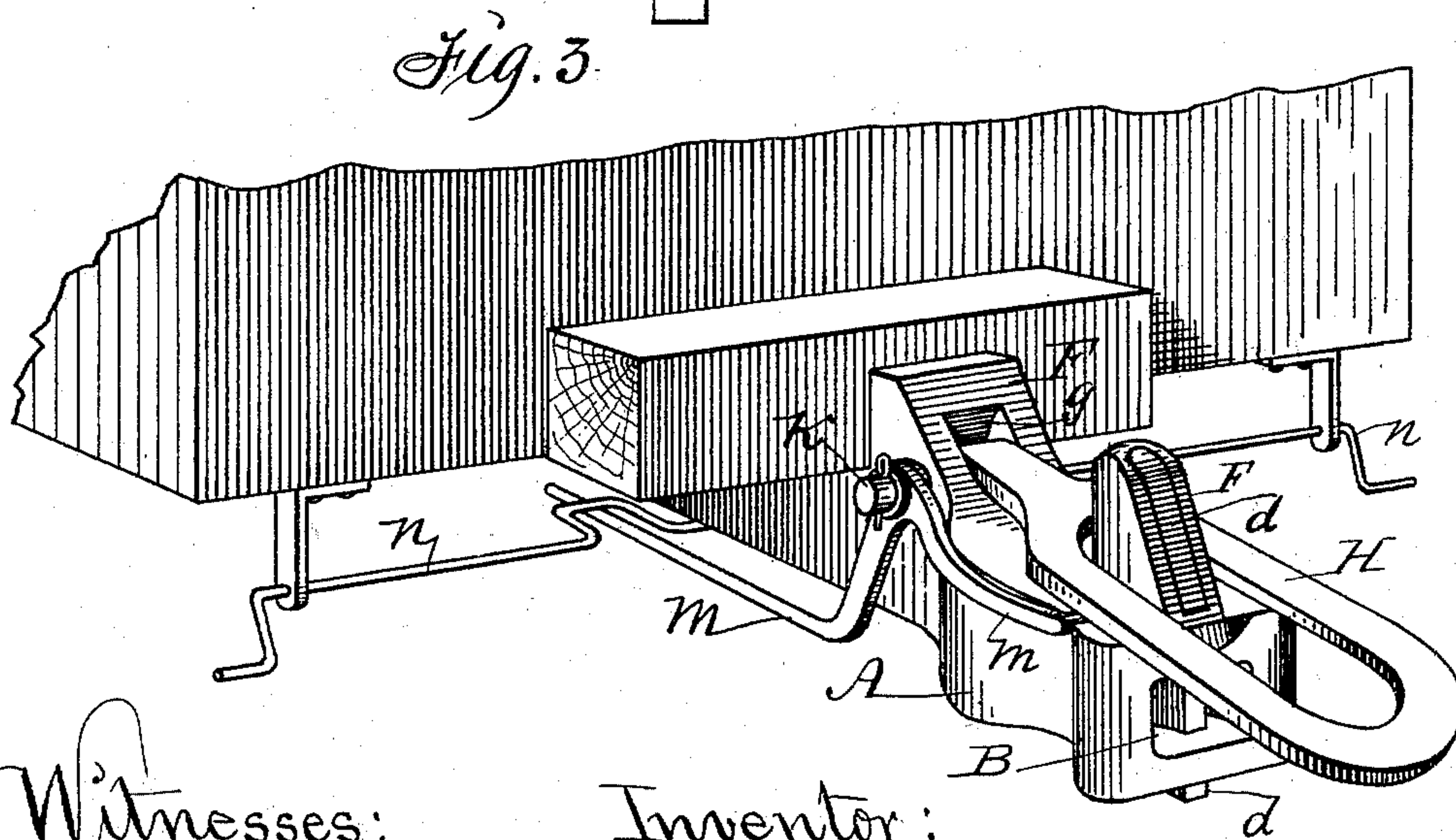
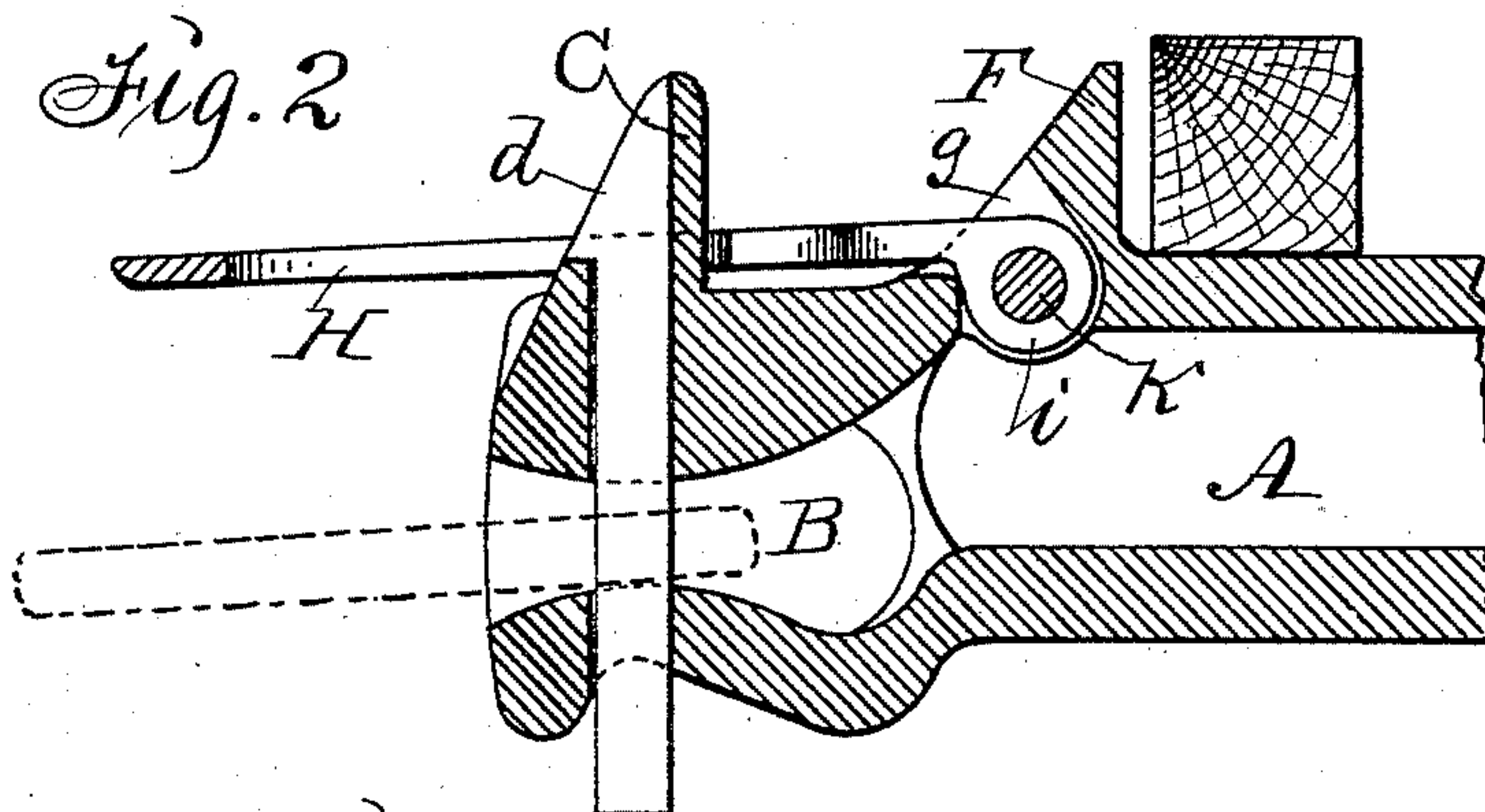
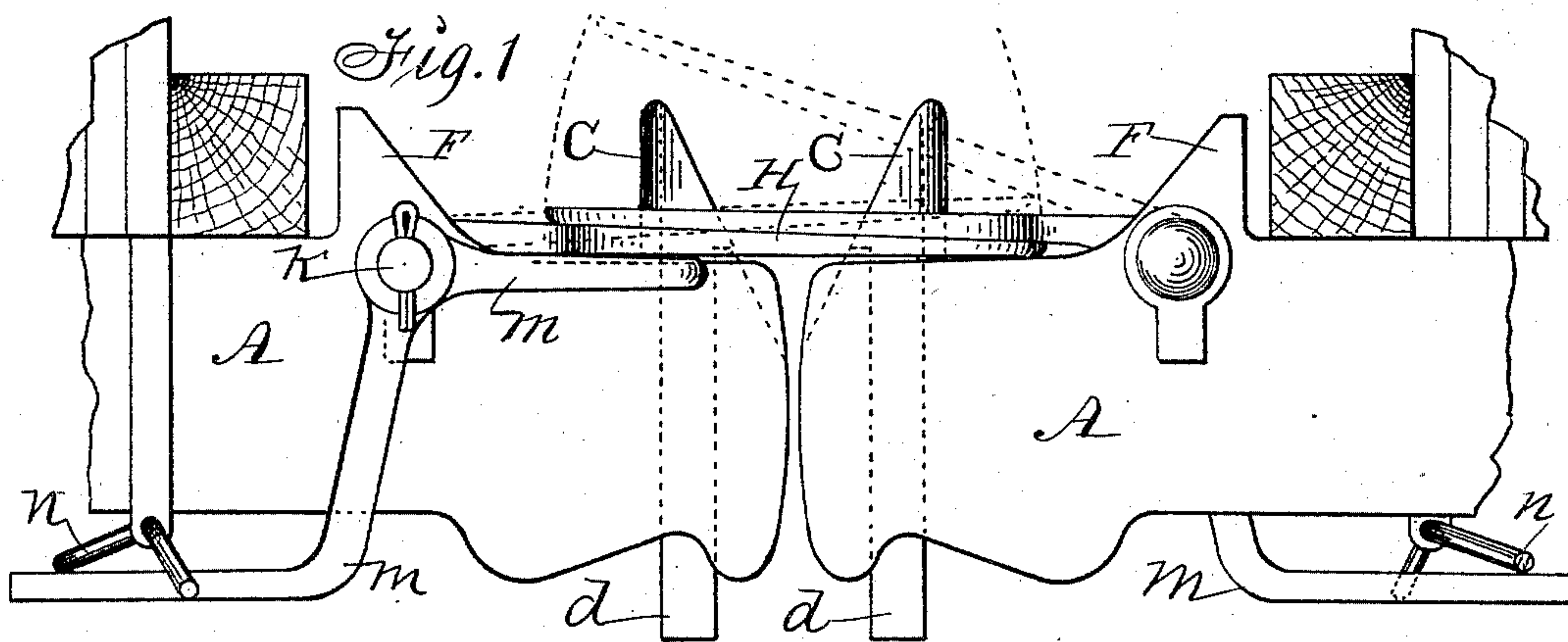


(No Model.)

S. H. SPRINGER.
CAR COUPLING.

No. 448,686.

Patented Mar. 24, 1891.



Witnesses:
R. H. Craig.
C. M. Shiles.

Inventor:

By Stephen H. Springer,
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UNITED STATES PATENT OFFICE.

STEPHEN H. SPRINGER, OF DES MOINES, IOWA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 448,686, dated March 24, 1891.

Application filed June 6, 1890. Serial No. 354,529. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN H. SPRINGER, a citizen of the United States of America, and a resident of Des Moines, in the county of Polk and State of Iowa, have invented a new and useful Improvement in Car-Couplings, of which the following is a specification.

My improvement relates to the automatic car-coupler for which United States Letters Patent No. 360,926 were issued to me April 12, 1887; and my invention consists in the construction and combination of a draw-bar, a hinged link, a coupling-pin, a bent lever, and a rock-shaft with a car, as hereinafter set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a side view of sections of two mating draw-bars reciprocally connected by means of hinged links. Fig. 2 is a vertical longitudinal sectional view showing one of the hinged links and one of the coupling-pins combined with the head of a draw-bar. Fig. 3 is a perspective view showing my complete invention applied as required for practical use.

A represents a draw-bar, that may be hollow or solid and connected with a car in any common or suitable way. It has a link-cavity B in its front end or head adapted to receive an open link of common form. It also has an integral projection C on the center of its front end, that is perpendicular on its rear side and inclined rearward on its front side and adapted to serve as a hook to engage a hinged link carried on a mating draw-bar. The front and inclined face of the projection is open to admit the head of a pin, and a pin-hole extends down through the projection and head of the draw-bar in such a manner that when an open link is in the link-cavity a pin can be inserted and passed through the link, as indicated by dotted lines in Fig. 2.

d is a square pin that has an inclined front face on its head adapting it to fit in and fill the hollow projection C. The lower part of the inclined face projects forward and retains the pin at a proper elevation.

F is a vertical projection on top of the draw-bar, and *g* is a socket therein adapted to receive a knuckle on the end of a link.

H is an open link that has an integral

knuckle *i*, adapted to fit and operate in the socket *g*.

k is a bolt that extends through coinciding perforations in the projection F and knuckle *i*, as required, to produce a hinged connection that will allow a restricted vertical motion to the link, as indicated by dotted lines in Fig. 1.

m is a bent lever pivoted to the end of the bolt *k*. It has a lateral extension at its front end that projects under the link and into a groove formed in the top face of the draw-heads in such a manner that when the rear end of the lever is depressed it will lift the link to disengage it from the vertical projection or hook of a mating draw-head, as required to uncouple.

n is a rock-shaft in bearings fixed to a car. It has a lateral bend *r*, that projects over the rear end of the lever *m* in such a manner that the lever can be readily operated by a person at either side of the car, as required to lift the link to uncouple two cars that are connected reciprocally by the hinged links H of two mating draw-bars A having hooks C.

I claim as my invention—

1. The open link H, having a knuckle *i* at its rear end, in combination with a draw-bar having a vertical projection F, and a socket in said vertical projection adapted to receive the knuckle, in the manner set forth, for the purposes specified.

2. The combination of the lever *m*, the pin *k*, and the link H, having a knuckle *i*, with the draw-bar A, having a projection F, and a socket *g* in said projection to operate the hinged link H, substantially as and for the purposes stated.

3. The combination of the lever *m* and the rock-shaft *n*, for the purposes stated.

4. The improved automatic car-coupling comprising the draw-bar A, having a link-cavity B, vertical projections C and F, the hinged link H, having a knuckle *i*, the pin *d*, the lever *m*, and rock-shaft *n*, arranged and combined with a car to operate in the manner set forth, for the purposes stated.

STEPHEN H. SPRINGER.

Witnesses:

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