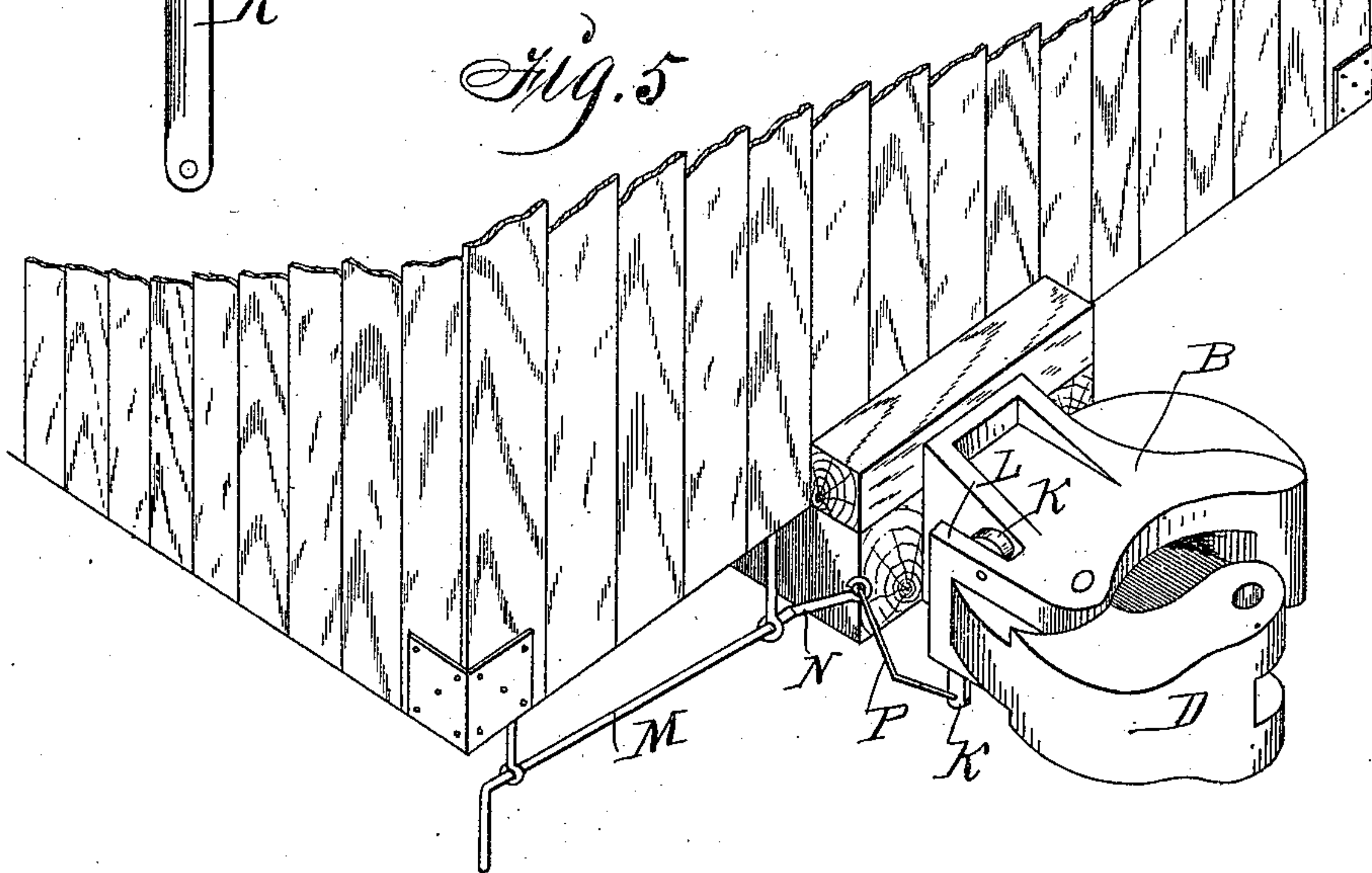
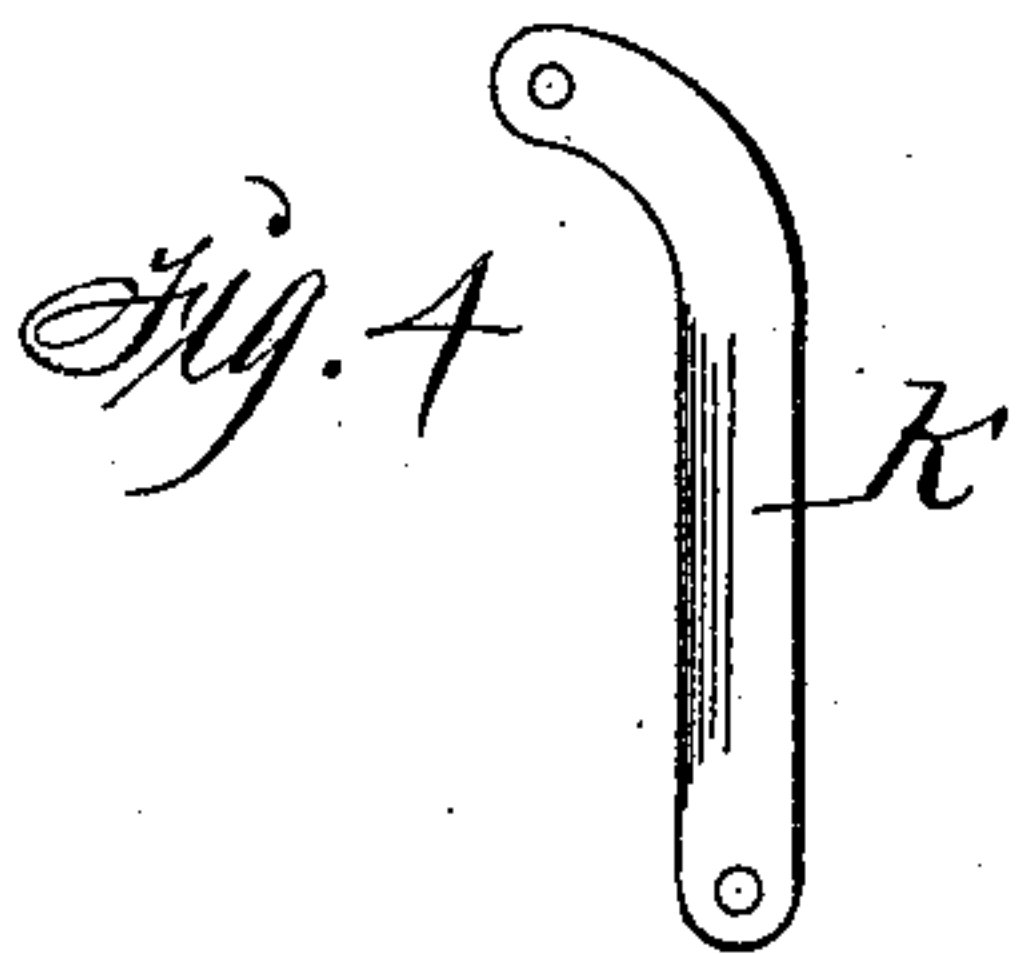
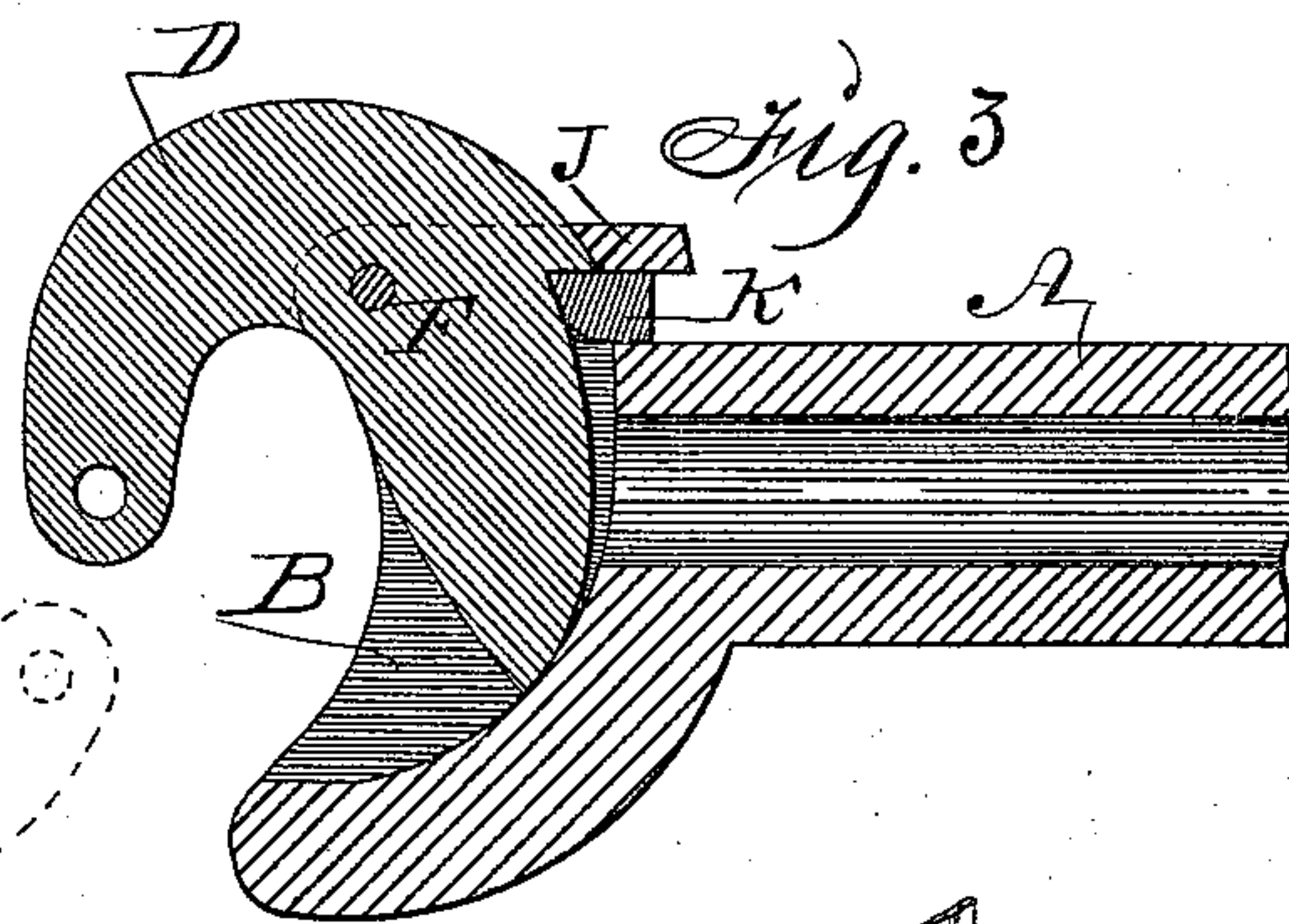
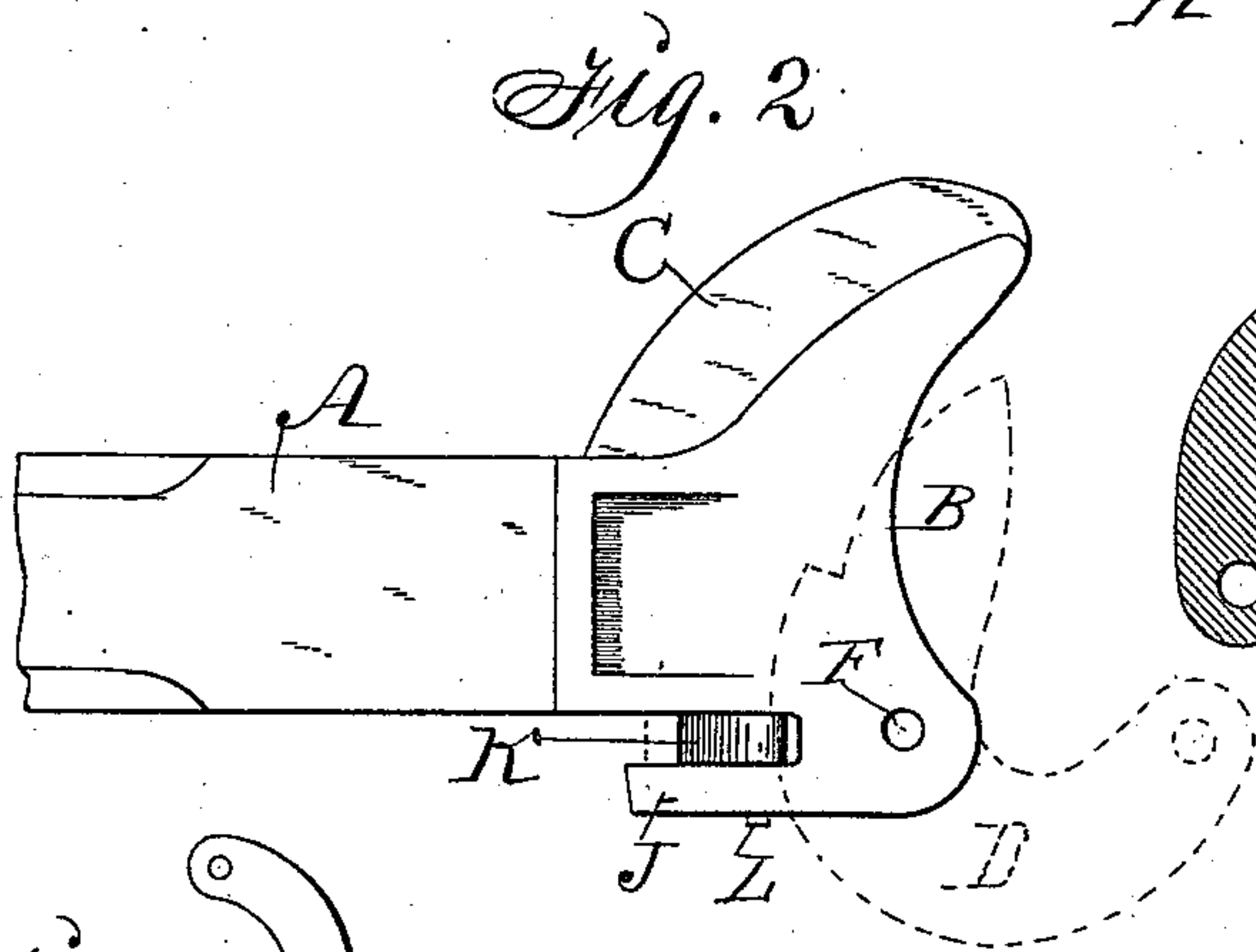
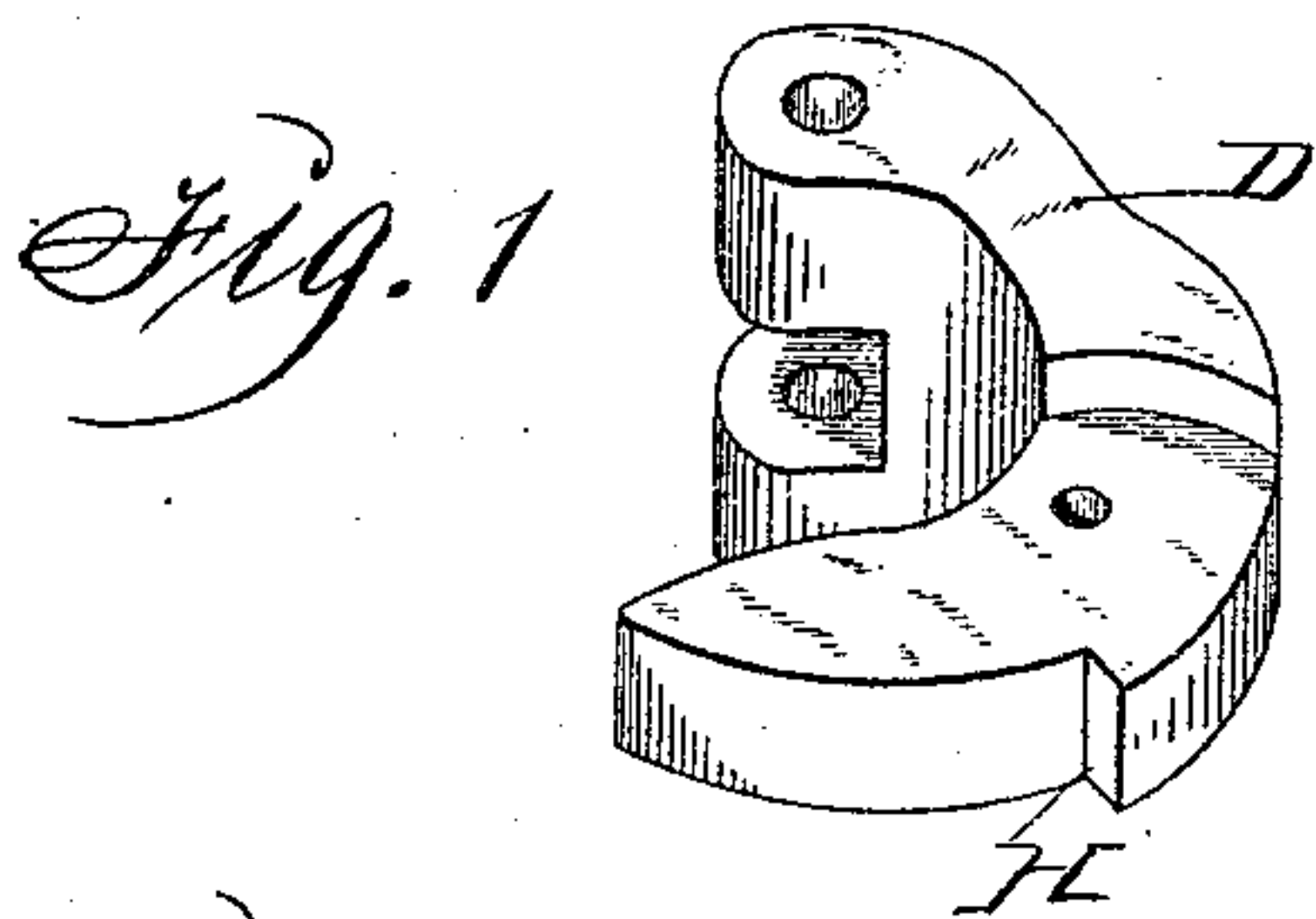


(No Model.)

S. H. SPRINGER.
CAR COUPLING.

No. 501,592.

Patented July 18, 1893.



Witnesses:

W. J. Sankey.

R. H. Orwig.

Inventor: Stephen H. Springer.

By Thomas G. Orwig, att'y.

UNITED STATES PATENT OFFICE.

STEPHEN H. SPRINGER, OF DES MOINES, IOWA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 501,592, dated July 18, 1893.

Application filed August 23, 1892. Serial No. 443,920. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN H. SPRINGER, a citizen of the United States of America, residing at Des Moines, in the county of Polk and State of Iowa, have invented an Automatic Car-Coupling, of which the following is a specification.

My invention relates to that class of car couplings in which jaws are pivoted in draw heads to swing horizontally and to reciprocally engage each other, when two cars come together on a track, as required to automatically couple two cars together. Heretofore such jaws have been locked in closed positions by means of latches located in cavities inside of the draw heads and adapted in form and position to engage the extremities or tail ends of the jaws that extended rearward into the draw heads.

My object is, first, to form and combine a draw head and jaw, and a locking device in such a manner that the pivot and the latch will be in the line of the draft and the tail end of the jaw in an abutting position to a lateral projection at the side of the draw head, when the jaw is closed and a draft force applied to the jaw, and the latch at the opposite side of the draw head in engagement with the central position of the rear face of the jaw; second, to connect the latch with a car by means of mechanism for uncoupling that is adapted to be operated by a person at the side of a car, and also adapted to be automatically operated whenever the rear end of the draw bar is broken loose from the car, as required to sever a train or a car from a train when such accidents occur.

I accomplish the results contemplated by the invention hereinafter set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a novel form of jaw that has a shoulder, adapted to be engaged by a latch, at the central portion of its rear face. Fig. 2 is a top view of the draw head and latch. Dotted lines show the position of jaw when unlocked and open. Fig. 3 is a sectional view through a horizontal plane of the draw head and the jaw pivoted thereto and in a closed and locked position. Fig. 4, represents the latch. Fig. 5, is a perspective view showing my complete invention applied

to a car, as required for practical use, and the jaw in a closed and locked position.

A represents a draw bar and B a draw head, of peculiar form, on its front end.

C is a curved lateral extension, at one side of the head, that has an open cavity adapted to admit the rear curved portion of the jaw D that is adapted to be pivoted to the corner at the opposite side of the draw head relative to the extension C.

F is a bolt extended down through coinciding perforations in the central part of the jaw and the corner at the front and side of the draw head as required to pivotally connect the jaw with the head.

H is a shoulder extending vertically in the convex rear face of the central portion of the jaw. The front end of the jaw is perforated and bifurcated to adapt it to be connected with another car by means of an open link and a pin in a common way.

J is a rearward projection at the side of the draw head that produces a space between its inner face and the side face of the draw head that is open at its top and bottom and rear and adapted to receive a gravitating latch.

K is a latch that is curved at its upper end and perforated and adapted to be suspended in the cavity at the side of the draw head by means of a pin or screw L, in such a manner that the latch can swing rearward in a vertical plane.

M is a rock shaft in bearings fixed to a car. It has a handle at its outer end by means of which it can be operated by a person at the side of the car, and an arm N at its inner end that is connected with the lower end of the latch K, by means of a rod P, in such a manner that the latch can be drawn backward and disengaged from the shoulder H of the jaw B by simply pressing the handle of the rock shaft forward and upward to thereby throw the arm N rearward.

When two cars are equipped with my draw head and safety device and come together on a track the jaws will reciprocally engage each other and the latches will automatically engage the shoulders in the rear faces of the jaws as required to lock the jaws and securely couple the cars.

To uncouple, a person at the side of the track can readily operate the rock shaft as required

to disengage one of the latches from the jaw with which it is engaged so that the jaw can swing on its pivot and release the mating jaw.

When by accident the draw bar becomes loose from the car and is pulled forward the latch will be automatically operated to uncouple and to disconnect a car or sever a train as may be required to prevent greater damage and disaster to a moving train.

10 I claim as my invention—

1. In a car-coupling, a draw head having an open cavity extending from one side thereof to near the other side and the rear face or wall of said cavity concave from end to end, a cavity extending vertically through the side portion of the draw head and intersecting the open end portion of the horizontal cavity, and a jaw pivoted in said horizontal cavity and provided with a rear extension that is convex on its rear face and adapted to abut against the said concave face of the rear wall of the horizontal cavity and also provided with a shoulder extending vertically in the rear convex face of the said rear extension and a latch pivoted in the said vertical cavity of the draw head and adapted to swing in a vertical plane and to engage the shoulder on the rear face of the rear extension of the jaw, and means for withdrawing the latch from engagement with the said shoulder on the rear extension of the jaw, all constructed and arranged and combined to operate in the manner set forth.

2. A draw bar having a head B, a curved lateral extension C and a concave opening or

cavity as shown and described, a rearward projection J, a jaw D having a curved extension and shoulder H on the rear convex face thereof, and a pivoted latch K, arranged and combined substantially as and for the purposes stated.

3. An improved automatic car coupling comprising a draw head having an open cavity extending from one side thereof to near the other end and the rear face or wall of said cavity concave from end to end, a cavity extending vertically through the side portion of the draw head and intersecting the open end portion of said horizontal cavity and a jaw pivoted in said horizontal cavity and provided with a rear extension that is convex on its rear face and adapted to abut against the concave face of the horizontal cavity and also provided with a shoulder extending vertically in the convex face of said rear extension of the jaw, a latch pivoted in the said vertical cavity to swing in a vertical plane and adapted to engage the said shoulder in the convex face of the rear extension of the jaw, and a rock shaft in bearings on the car and provided with a crank or arm connected with the lower end of the pendent latch by means of a rod, to operate in the manner set forth for the purposes stated.

STEPHEN H. SPRINGER.

Witnesses:

J. RALPH ORWIG,
THOMAS G. ORWIG.