

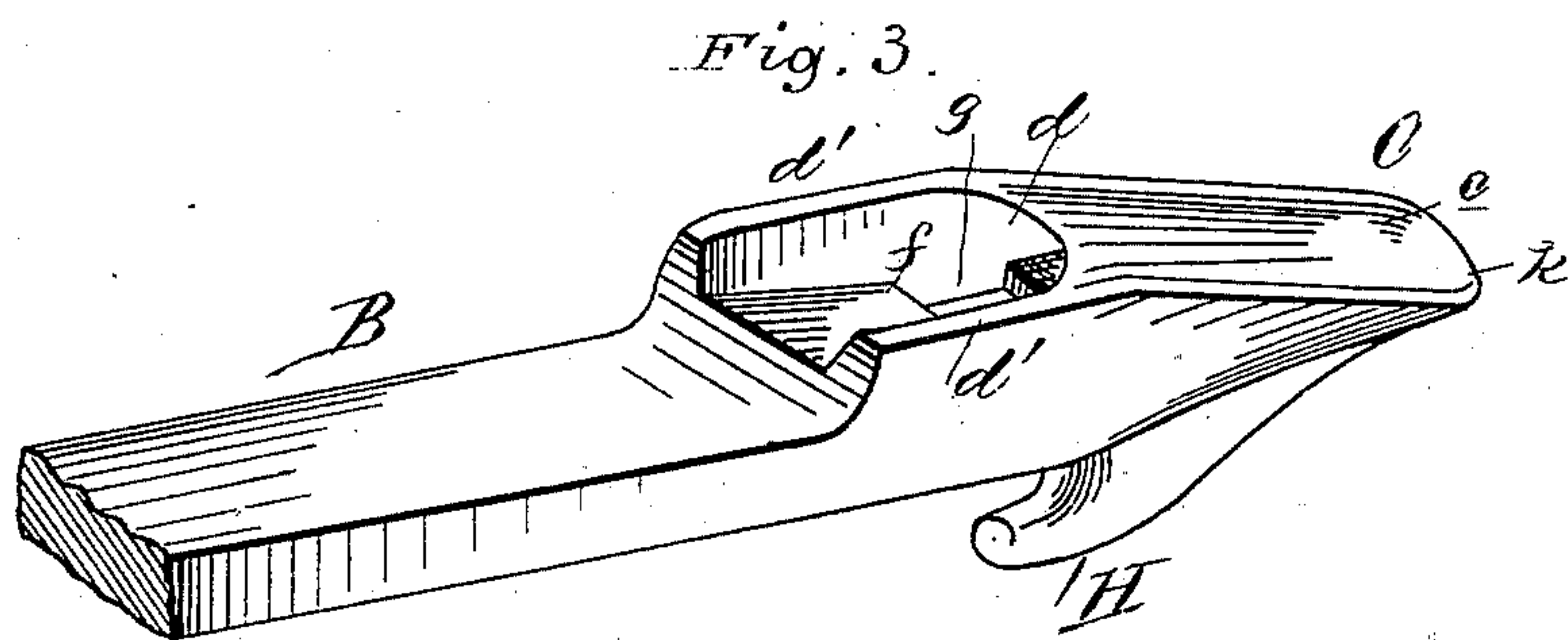
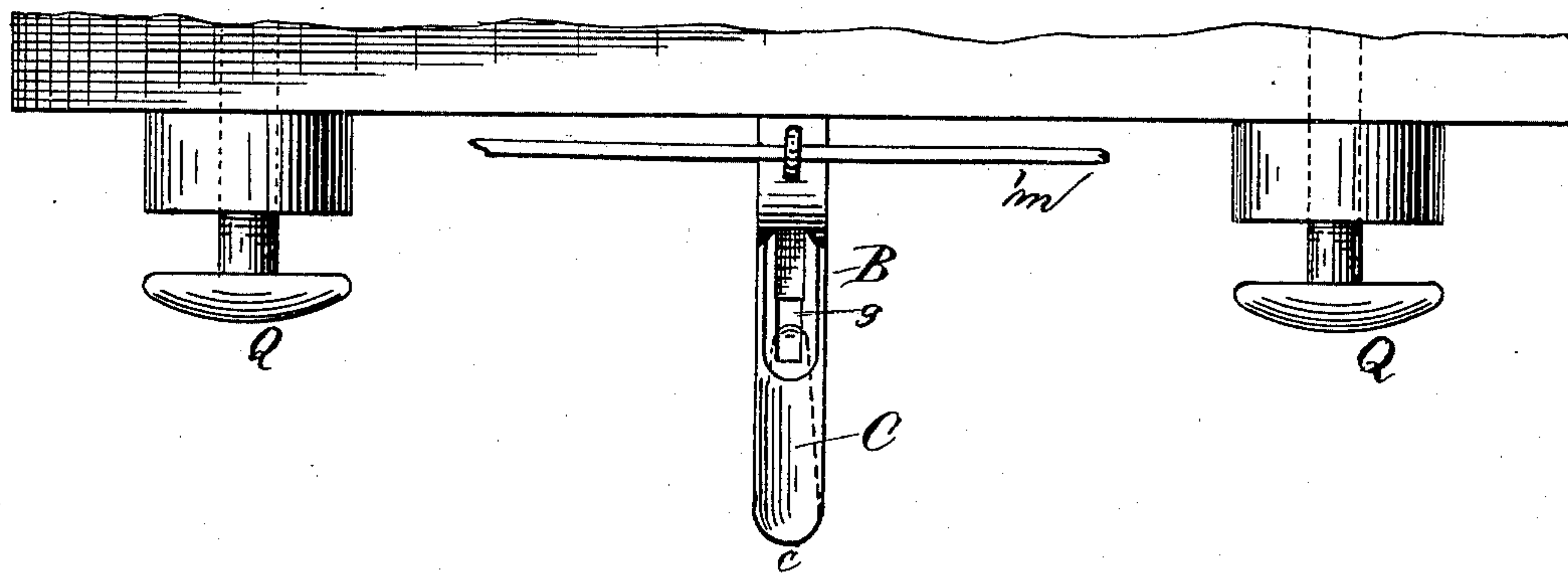
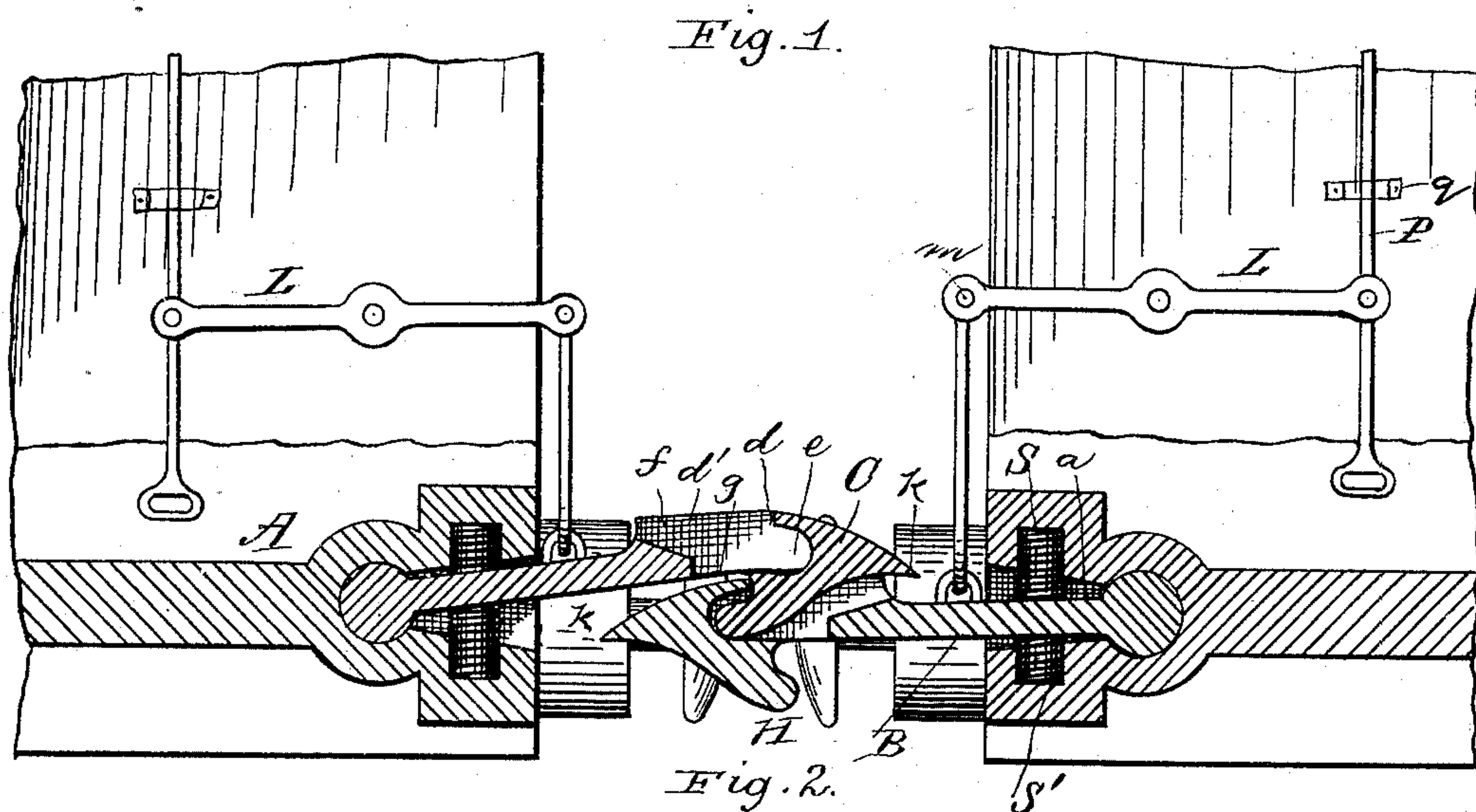
(No Model.)

N. R. ZIMMERMAN.

CAR COUPLING.

No. 277,823.

Patented May 15, 1883.



Witnesses:

Ed Johnson
H. H. Taylor.

Inventor:

N. R. Zimmerman
[Signature]

Attorney.

UNITED STATES PATENT OFFICE.

NOAH R. ZIMMERMAN, OF ELIZABETH CITY, NORTH CAROLINA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 277,823, dated May 15, 1883.

Application filed March 8, 1883. (No model.)

To all whom it may concern:

Be it known that I, NOAH R. ZIMMERMAN, a citizen of the United States of America, residing at Elizabeth City, in the county of Pasquotank and State of North Carolina, have invented certain new and useful Improvements in Car-Couplers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to automatic car-couplers, its object being to provide coupling devices which will automatically couple cars of the same or different heights, which may be uncoupled by persons aboard the cars, which will adapt themselves to any curve of a railway, and will be automatically uncoupled when cars are thrown from the track and upset.

The invention consists in the novel constructions and combinations of devices which will be hereinafter pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a view of the ends of two cars, partly in vertical section, provided with my improved coupling devices, which are shown in section. Fig. 2 is a plan view of the end of the car, provided with my improved coupler. Fig. 3 is a perspective view of the front portion of one of the coupler-bars.

The letter A indicates a draw-head, the rear end of which is secured to the car in any ordinary manner, and the front end of which is provided with a flaring socket, *a*. In the rear end of this socket is pivoted the inner end of the coupling-bar B, the outer end of which is provided with an inclined upper face, C, preferably concave longitudinally, as shown at *c*. At its upper end this inclined face terminates in a shoulder, *d*, at one end of a recess, which is open at the opposite end, and bounded on its sides by walls *d'* *d'*. The upper portion of the inclined face C is undercut to form a recess, *e*, and directly in the rear of this recess an inclined face, *f*, is arranged between the walls *d'* *d'*, and in front of this inclined face, and between it and the lower wall of the recess *e*, is an opening, *g*, through the bar. From

the under side of the front inclined face of the bar extends a downwardly and rearwardly inclined horn, H, which terminates under the opening *g*, and is adapted to fit loosely and swing laterally in the recess *e* of another coupling-bar, as shown in Fig. 1.

In the socket of the draw-head, immediately above and bearing on the coupling-bar, is a spring, S, and below the coupling-bar is a similar spring, S', bearing against the under side of said bar. These two springs hold the bar in an approximately-horizontal position, and will yield to allow it to move upwardly or downwardly. The front end of the bar is tapered to a knife-edge, as shown at *k*.

To the sides of the car are pivoted levers L, the front ends of which are pivoted to the opposite ends of a cross-bar, *m*, the center of which is connected with the coupling-bar by a link, *n*. The rear ends of the lever L are pivoted to operating-bars P, provided at their ends with handles *p*, and held in an approximately-vertical position by loops *q*, projecting from the sides of the cars. The lower ends of these operating-bars may be reached from the ground and the upper ends from the tops of the cars.

Each car is similarly provided with a coupling-bar and connections, and when two cars approach each other the knife-edged front end of one coupling-bar will lap over the end of the other coupling-bar, and its horn H will ride up on the inclined face C and drop behind the shoulder *d*, its lower inclined edge falling on the inclined face *f*. When one of the cars is moved off, as when a train starts, the horn H will be guided by the inclined face *f*, so that its end will enter the recess *e* and draw against the front wall thereof. In coupling, the springs allow both of the bars to yield in opposite directions, and will press them together as soon as the horn H passes the shoulder *d*, so that the coupling will be quickly and surely effected, and there is no danger of the bars bouncing out of engagement when the train slacks up. The openings prevent water from accumulating and freezing in the recesses, and also prevent the lodgment of trash therein. The cars may be provided with any suitable bumpers, as shown at Q Q.

Having now fully described my invention, I

wish it to be understood that I do not limit myself to the precise configuration of the coupling-bar or the means for operating the same as shown in my drawings, as the shape of the ends of the bars may be obviously somewhat varied, and the operating-levers and their connections may be omitted altogether or other operating devices substituted therefor.

What I claim is—

- 10 1. A car-coupling mechanism composed of the two coupling-bars B B, pivoted at their rear ends to vibrate vertically in the draw-head, and each provided with a tapering front end, inclined face C, shoulder *d*, recess *e*, and
15 horn H, substantially as described.

2. The combination, with the coupling-bar, pivoted at its rear end in the draw-head, of the cross-bar *m*, connecting-link *n*, levers L, pivoted to the sides of the car, and the operating-rods P, pivoted to the rear ends of said levers, 20 and adapted to be operated from the top of the car and also from the ground, substantially as described.

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

NOAH R. ZIMMERMAN.

Witnesses:

G. M. SCOTT,
J. T. DUNCAN.