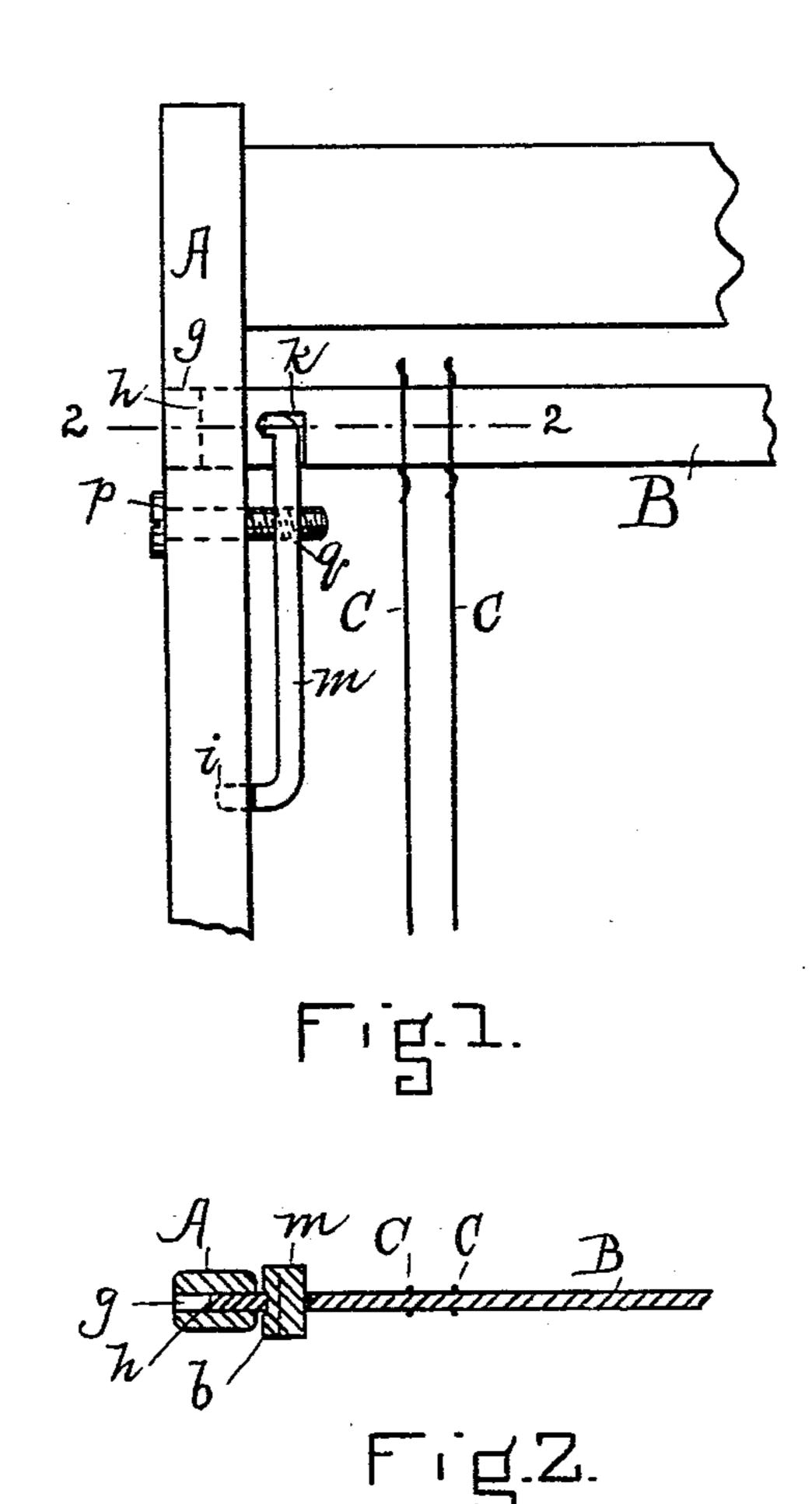
(No Model.)

## F. A. GARNSEY. HEDDLE ROD TIGHTENER.

No. 555,086.

Patented Feb. 25, 1896.



WITNESSES. Matthew M. Blunt. Commiller Freduick Q. Farry

By Ca. Shawalla,

ATT'YS

## UNITED STATES PATENT OFFICE.

FREDERICK A. GARNSEY, OF CORDAVILLE, MASSACHUSETTS.

## HEDDLE-ROD TIGHTENER.

SPECIFICATION forming part of Letters Patent No. 555,086, dated February 25, 1896.

Application filed May 6, 1895. Serial No. 548,275. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK A. GARN-SEY, of Cordaville, in the county of Worcester, State of Massachusetts, have made certain 5 new and useful Improvements in Heddle-Rod Tighteners, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make 10 and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a front elevation of a portion of a heddle-frame provided with my improve-15 ment, and Fig. 2 a sectional view taken on

line 2 2 in Fig. 1.

Like letters of reference indicate corresponding parts in both figures of the drawings.

My invention relates especially to a device 20 for fastening and tightening the rods in heddle-frames; and it consists in certain novel features hereinafter set forth and claimed, the object being to provide a simple, cheap, and effective means for this purpose.

In the drawings, A represents the side bar of the harness or heddle-frame, B the heddlerod, and C the heddles. The side bar A of the frame is mortised at g to receive the end h of the heddle-rod. The rod adjacent said 30 end is notched at k, said notch being preferably right angular, as shown, but may be of any suitable form. The take-up bar m has an end lipped at b to engage in said slot or notch, and its opposite end is reduced, form-ing a tongue i, which may enter a suitable

socket in the frame side bar A or may engage the face of said bar. A screw-bolt p turns freely in an opening in the side bar, its threaded end engaging in a threaded opening in the take-up bar madjacent the heddle-rod 40 when the parts are in position. By turning in the bolt the bar m is forced toward the side bar of the frame, exerting tension longitudinally on the heddle-rod. As the bolt acts on the take-up bar between the bearing-points of 45 its ends, said bar is caused to spring toward the frame, serving effectually to prevent said bolt being accidentally turned out by the jarring of the frame, thus overcoming the objections incident to the use of tighteners 50 wherein nuts and screw-bolts which turn in the frame are employed.

I do not confine myself to using any form of slot or notch in the rod, nor to any particular form of take-up bar, so long as said bar 55 has a bearing in said notch and against the frame for the purpose specified.

Having thus explained my invention, what

I claim is—

The combination with the heddle-rod pro- 60 vided with a notch or slot, of an angular takeup bar having one end engaged in said slot and the opposite end engaged with the heddleframe, and a screw-bolt passing through the frame and turned into said bar between its 65 ends substantially as described.

FREDERICK A. GARNSEY.

Witnesses:

SARA GARNSEY, EVA GARNSEY.