

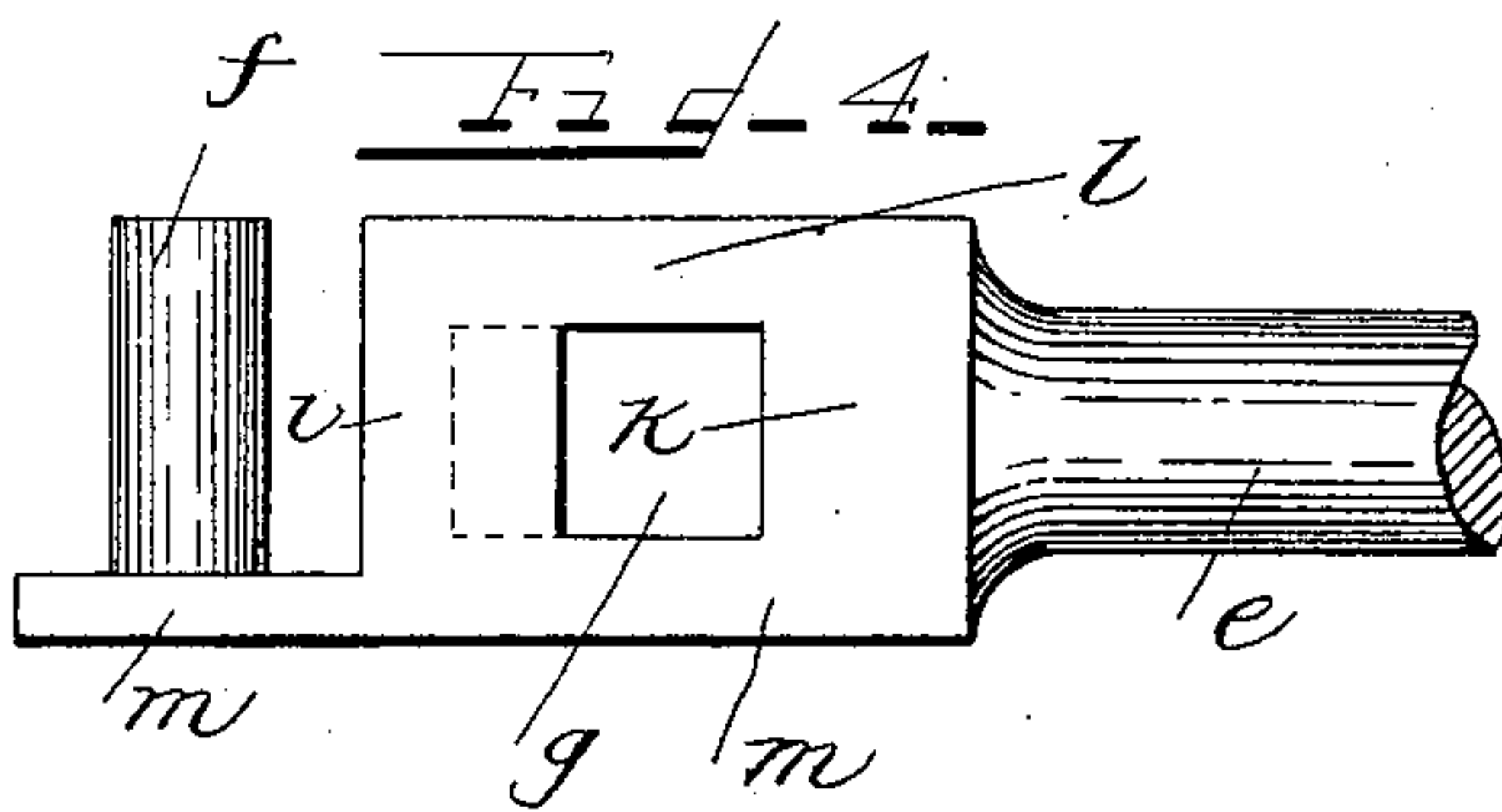
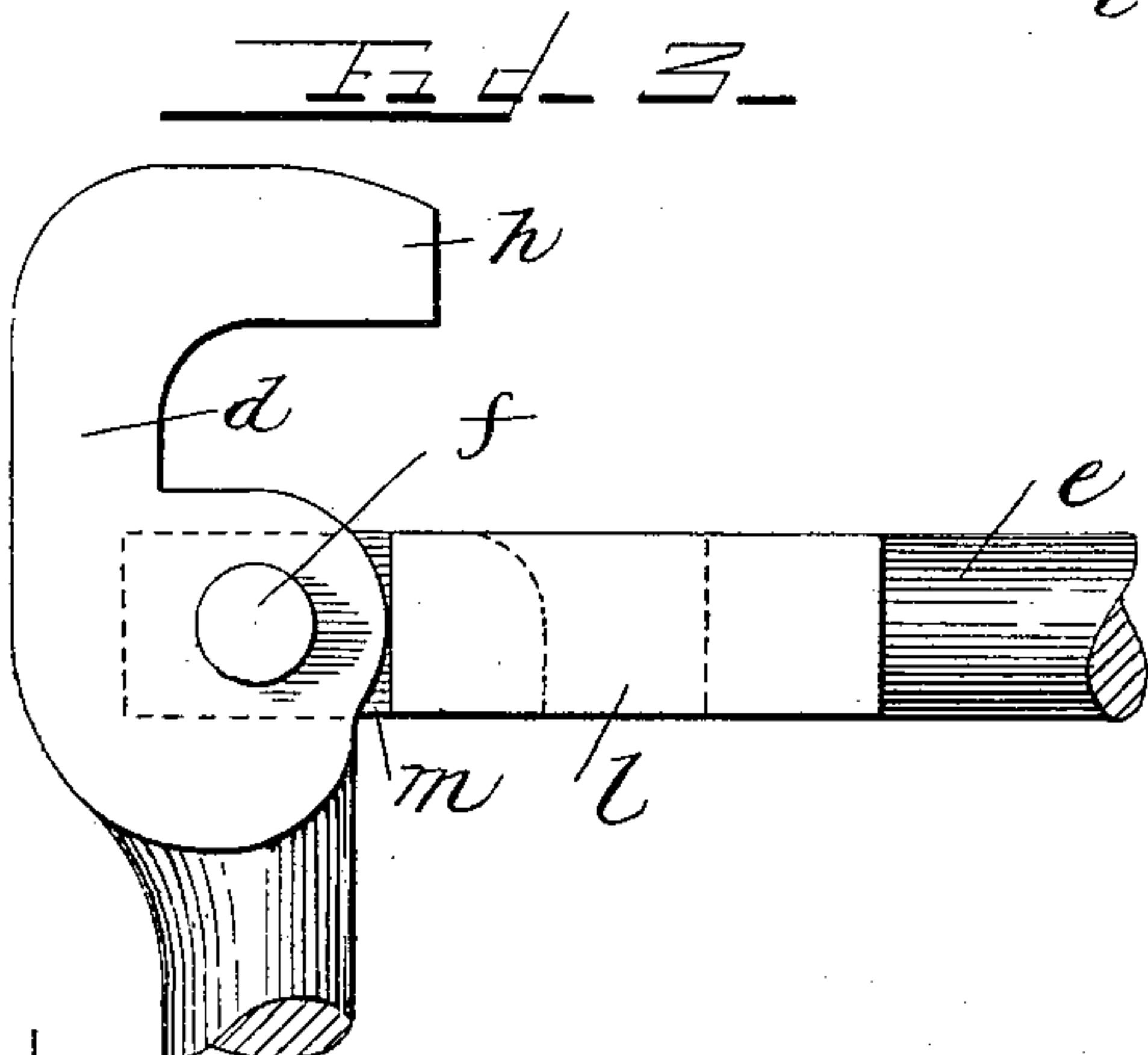
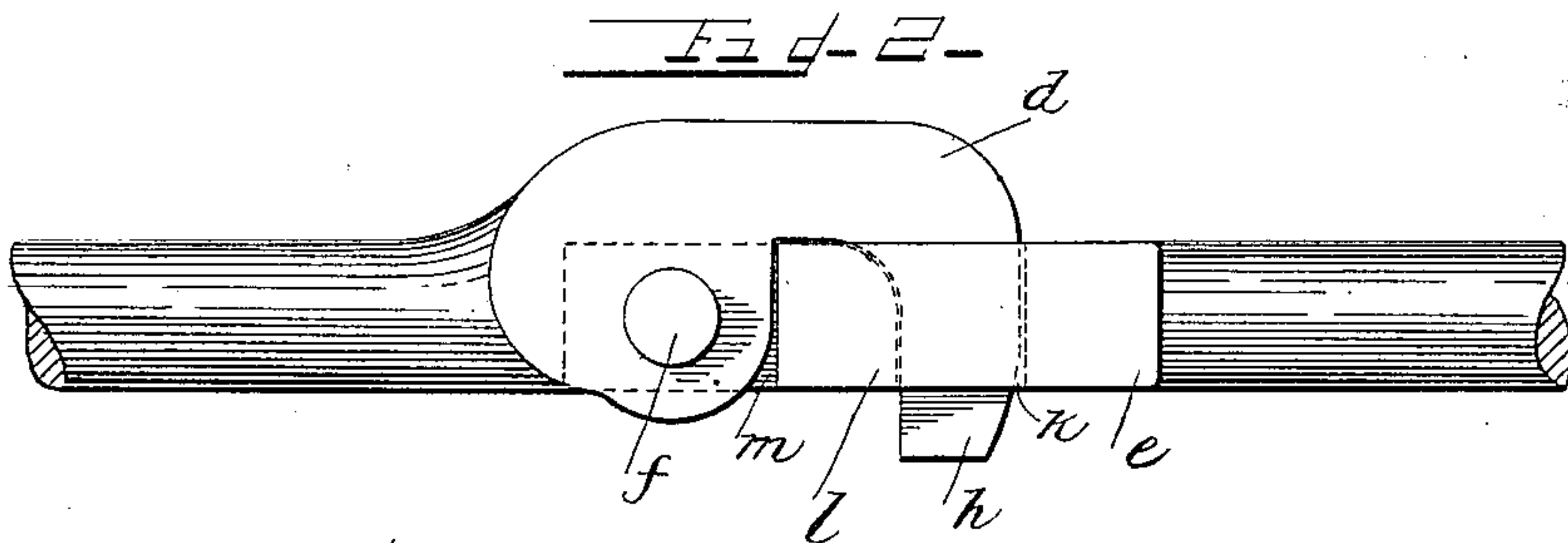
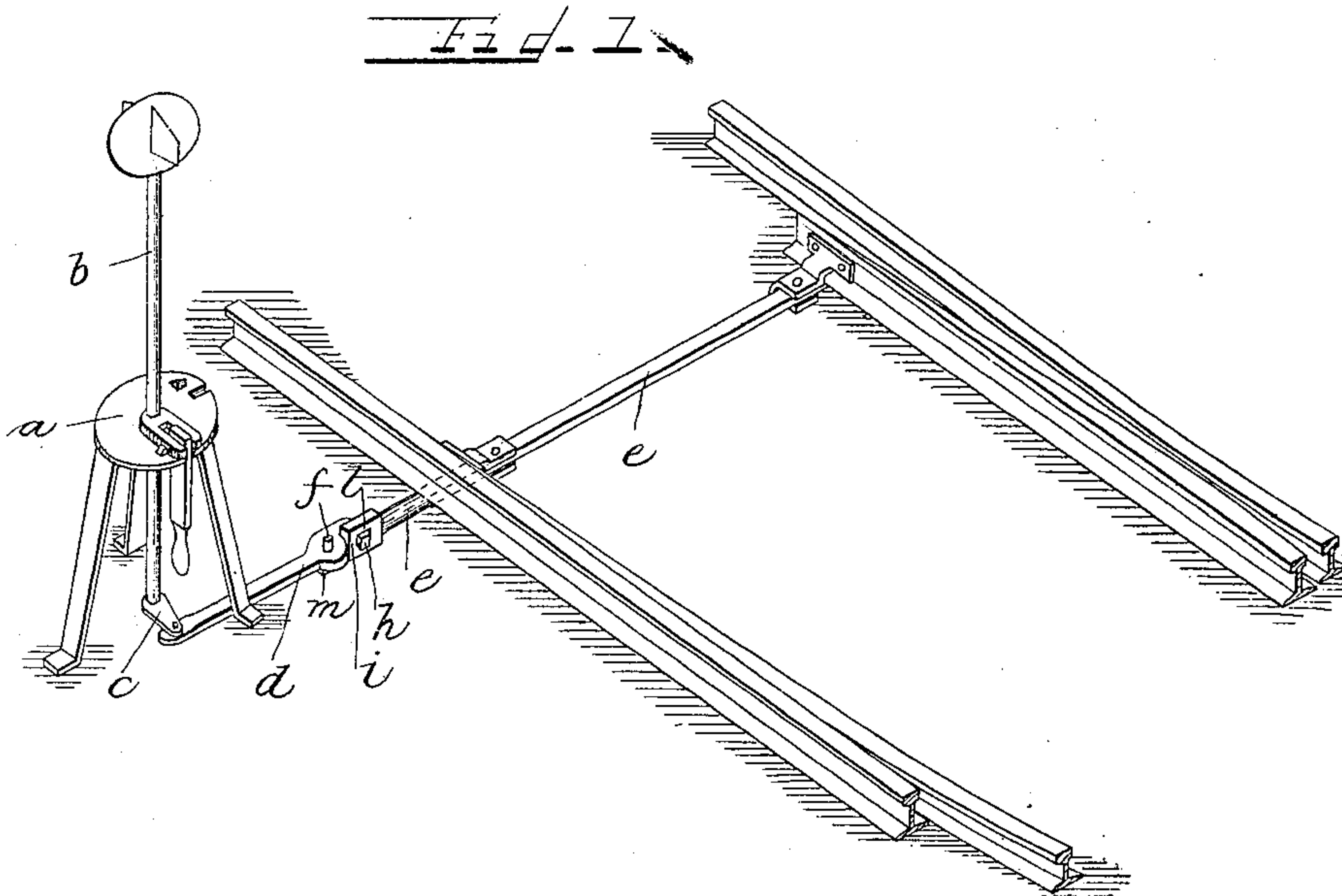
No. 654,274.

Patented July 24, 1900.

M. O'DOWD.
RAILWAY SWITCH.

(Application filed Oct. 27, 1899.)

(No Model.)



Witnesses—

C. J. Schmidt.
May Label.

Inventor

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BY—

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UNITED STATES PATENT OFFICE.

MICHAEL O'DOWD, OF CHILLICOTHE, ILLINOIS, ASSIGNOR OF ONE-HALF TO
WILLIAM C. NIXON, OF CHICAGO, ILLINOIS.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 654,274, dated July 24, 1900.

Application filed October 27, 1899. Serial No. 734,920. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL O'DOWD, a citizen of the United States, residing at Chilli-
cothe, in the county of Peoria and State of
5 Illinois, have invented a certain new and use-
ful Improvement in Railway-Switches, (Case
No. 2,) of which the following is a full, clear,
concise, and exact description, reference be-
ing had to the accompanying drawings, form-
10 ing a part of this specification.

My invention relates to railway-track
switches, and has for its object the provision
of improved mechanism intervening between
the switch and switch-stand for more securely
15 connecting the head tie-bar with the goose-
neck employed for moving the tie-bar to op-
erate the switch. Pitmen are usually em-
ployed for connecting the head tie-bar, which
is limited to a longitudinal movement, with
20 the gooseneck or crank located at the switch-
stand. In these switches the gooseneck ro-
tates in a horizontal plane and is provided
with a vertical stem which upon being ro-
tated swings the gooseneck, which through
25 the agency of the pitman moves the tie-bar
and operates the switch.

My invention relates particularly to the
means for uniting the pitman with the tie-
bar. Owing to the fact that there must be
30 relative motion between the pitman and the
tie-bar the joint between the same cannot be
a rigid one, and bolts and nuts have hereto-
fore been employed, which while securing
these parts together also permit relative mo-
35 tion between the same; but owing to the fre-
quent jolting to which the tie-bar is subjected
when trains pass over the switch-points united
thereby the bolts and nuts would frequently
work loose, resulting in a disconnection be-
40 tween the pitman and tie-bar. The switch-
points thus being disconnected from the
gooseneck and pitman are free to work from
side to side, so that the switch will become
out of set, thereby causing an obstruction to
45 the wheels of trains, making derailment lia-
ble. Many accidents in railway traffic are
due to this imperfect joint between the pit-
man and tie-bar.

It is the object of my invention to provide
50 an improved joint which will permit of the
required relative motion between tie-bar

and pitman, but which is free from bolts and
nuts, whereby the joint between the pitman
and tie-bar cannot be broken. Generally
speaking, the preferred embodiment of my 55
invention comprises a pitman and tie-bar,
one of which members, preferably the tie-
bar, being provided with a wrist-pin, while
the other member is provided with a hole or
journal-opening to receive the wrist-pin, the 60
parts being assembled with the wrist-pin in
a vertical position. The wrist-pin is un-
threaded, as is also the bore engaging the
same, and in order to prevent displacement
of the pitman longitudinally with relation to 65
the wrist-pin I preferably provide a hooked
nose upon the pitman interposed between
walls of a recess in the tie-bar, the nose and
recess being so shaped that the pitman may
rotate about the axis of the wrist-pin within 70
the required range for the operation of the
switch without causing a separation between
the nose and its engaging recess. Modifica-
tions may be made, however, from the pre-
ferred embodiment of the invention without 75
departing from its spirit.

I will explain my invention more fully by
reference to the accompanying drawings,
illustrating the preferred embodiment there-
of, in which— 80

Figure 1 is a perspective view showing
track-switch points, a switch-stand, and the
intervening mechanism between the same
and the switch-points. Fig. 2 is a plan view
of the contiguous end portions of the pitman 85
and tie-bar. Fig. 3 is a plan view showing
the contiguous ends of the pitman and con-
necting-rod in the position in which they are
placed in order to connect them together.
Fig. 4 is a view in elevation of one end of the 90
tie-bar.

Like parts are indicated by similar letters
of reference throughout the different figures.

In the drawings I have shown the usual
form of railway hand-switch, a switch-stand 95
a being placed upon one side of the track-
rails, this switch-stand supporting a verti-
cally-operating rod *b*, carrying a gooseneck
c upon its lower end. A crank-pin forms the
connection between the gooseneck and one 100
end of the pitman *d*, the other end of the pit-
man being united with the tie-bar *e*, as will

be more fully set forth. One of the members *d* and *e*, preferably the pitman *d*, is provided with a bearing which receives the wrist-pin *f*. The wrist-pin *f* is preferably formed of wrought-iron and is anchored at one end to an extension *m*, projecting longitudinally beyond the tie-bar. The pitman is provided with a hooked nose *h*, a recess intervening between the said nose and the journal portion of the pitman for receiving the transverse rib *i* of the tie-bar. The tie-bar is provided with a second extension *l*, also projecting longitudinally thereof, the ribs or walls *i* and *k* serving to unite the longitudinal extensions *l* and *m*.

I do not wish in all instances to be limited to the employment of both walls *i* and *k* for the purpose of uniting the extensions *l* and *m*.

In assembling the pitman and tie-bar the pitman is preferably swung at right angles to the tie-bar to permit of the insertion of the wrist-pin within the corresponding journal-opening in the pitman, after which the pitman and tie-bar may be swung approximately into alinement to secure the engagement of the nose *h* with the recess *g*. By reference more particularly to Fig. 1 it will readily be seen how the extension *m*, the wrist-pin *f*, extension *l*, and the nose *h* cooperate in securing the parts together without the aid of nuts, which are likely to come loose, the extension *m* serving to prevent displacement in one direction longitudinally of the wrist-pin, while the extension *l*, cooperating with the nose *h*, serves to prevent displacement of the pitman in the other direction. While I have shown the extensions *l* and *m* and the wrist-pin *f* provided upon the head tie-bar and the extension *h* upon the pitman, it is obvious that this construction may be reversed, and I wish it to be understood that I claim not only the specific embodiment of the invention shown,

but also a reversal of the construction shown. It will be observed that the extension *l* serves as an abutment when it is engaged by the nose *h*. In this way the strain incident to moving the rails by the pitman is taken up by the extension *l* instead of by the wrist-pin *f*. In this way the pivotal connection is relieved of a strain which would soon tend to destroy or weaken it.

Persons maliciously inclined cannot readily disconnect the tie-bar and piston when they are united in accordance with my invention.

The device of my invention may be used in other connections than in the construction of railway switching mechanism.

It is obvious that changes may readily be made in the preferred embodiment of my invention herein shown and particularly described, and I do not therefore wish to be limited to the precise construction shown; but,

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination with the member for engaging the rails of a member for operating the same, pivotally connected therewith, one of said members being provided with a socket and the other with a nose which can enter the socket when it is swung into operative position, substantially as described.

2. The combination with the tie-bar, of a pitman pivotally connected therewith, the tie-bar being provided with a socket and the pitman being provided with a nose arranged to enter said socket, substantially as described.

In witness whereof I hereunto subscribe my name this 23d day of October, A. D. 1899.

MICHAEL O'DOWD.

Witnesses:

GEORGE L. CRAGG,
C. E. HUBERT.