

(No Model.)

W. A. McNEAL.
THILL COUPLING.

No. 446,837.

Patented Feb. 17, 1891.

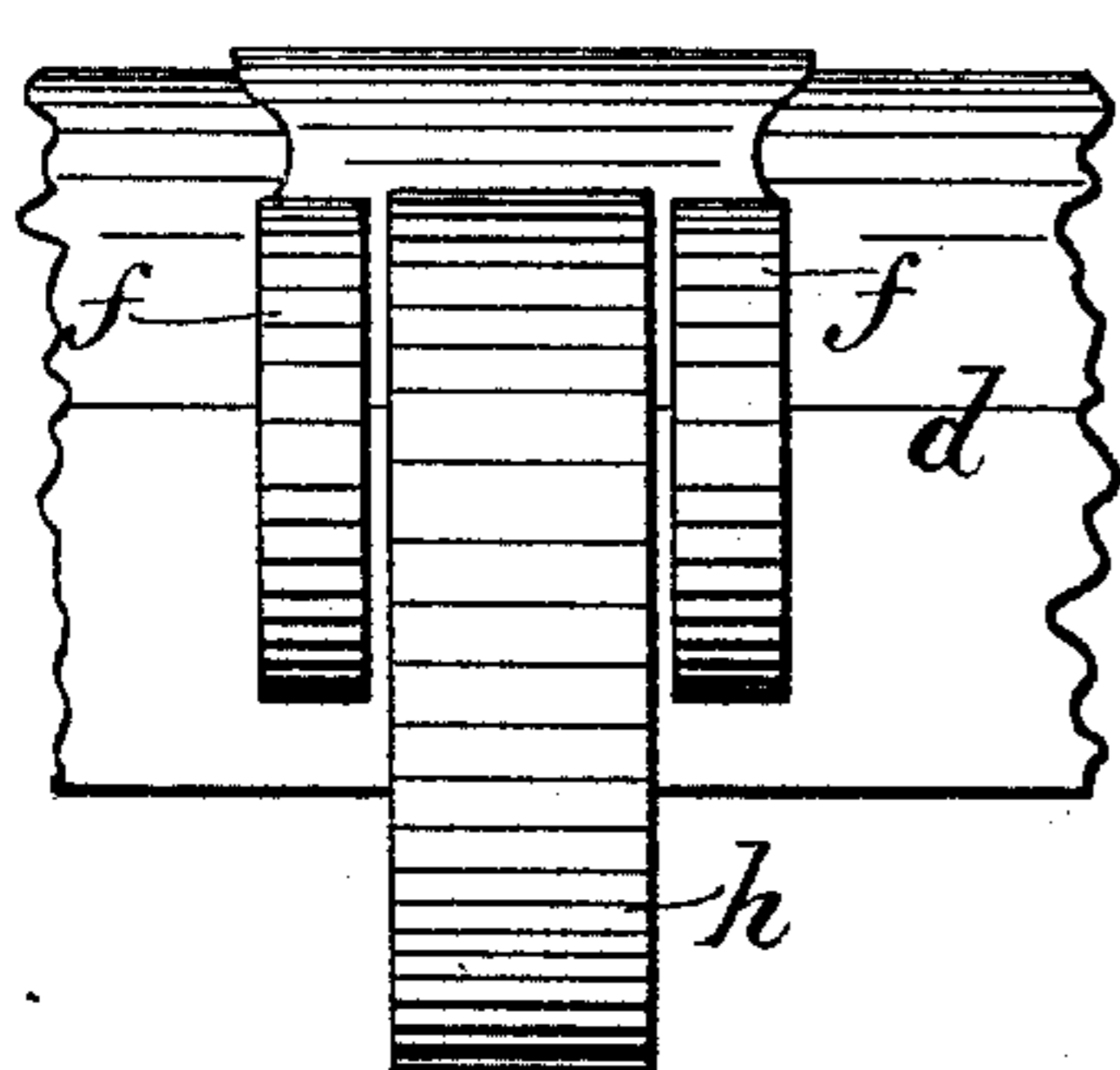


Fig. 5.

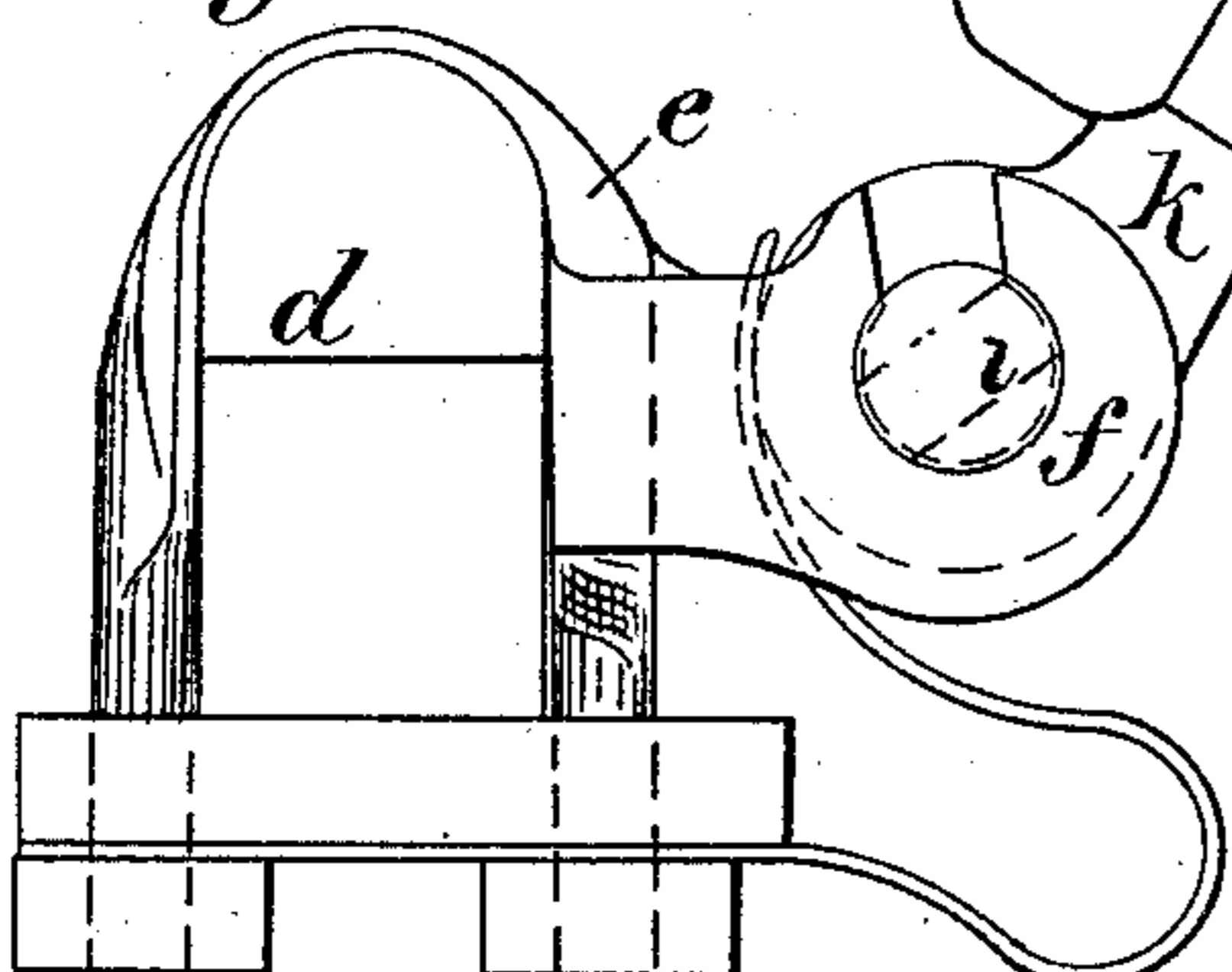
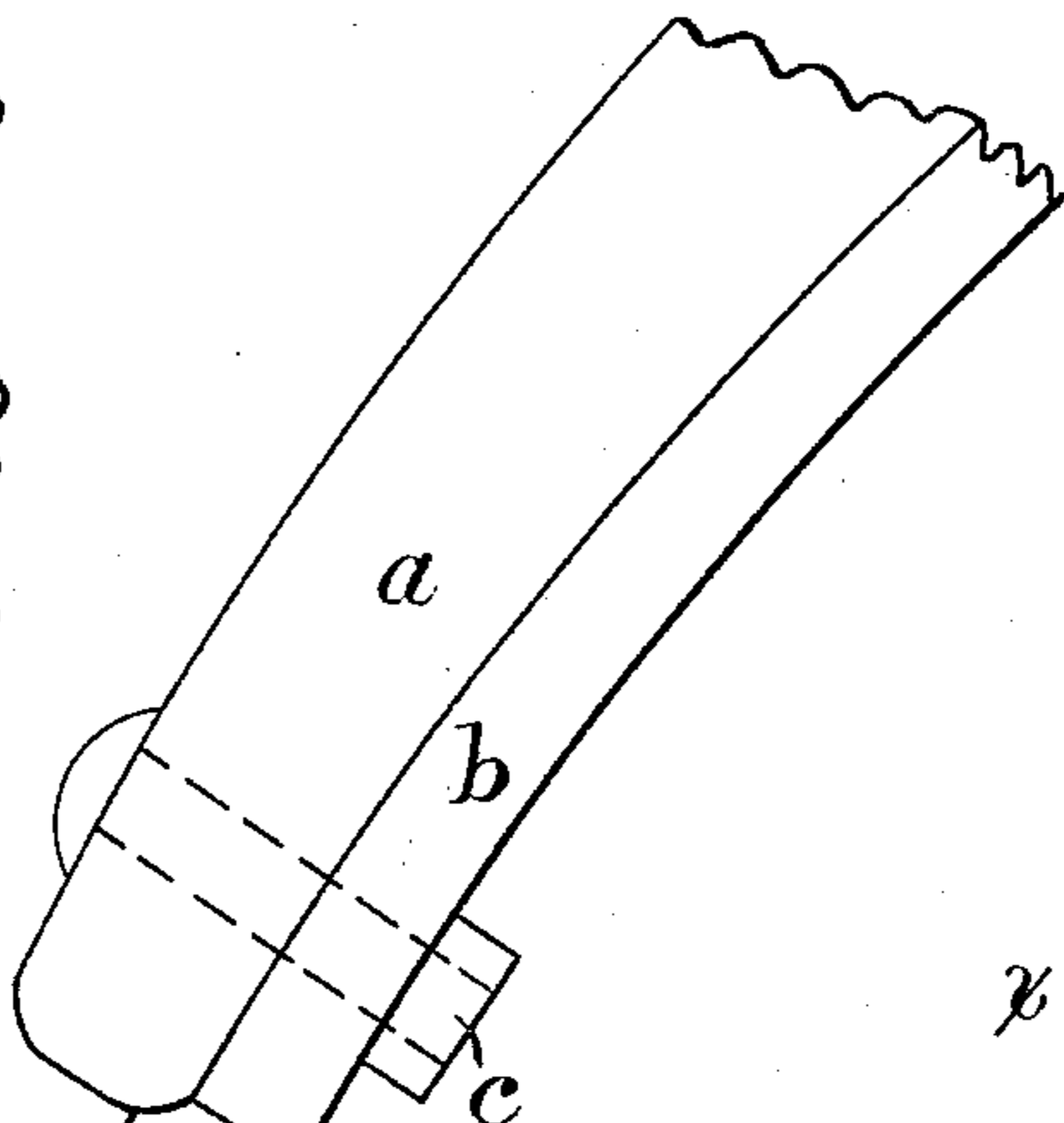


Fig. 1.

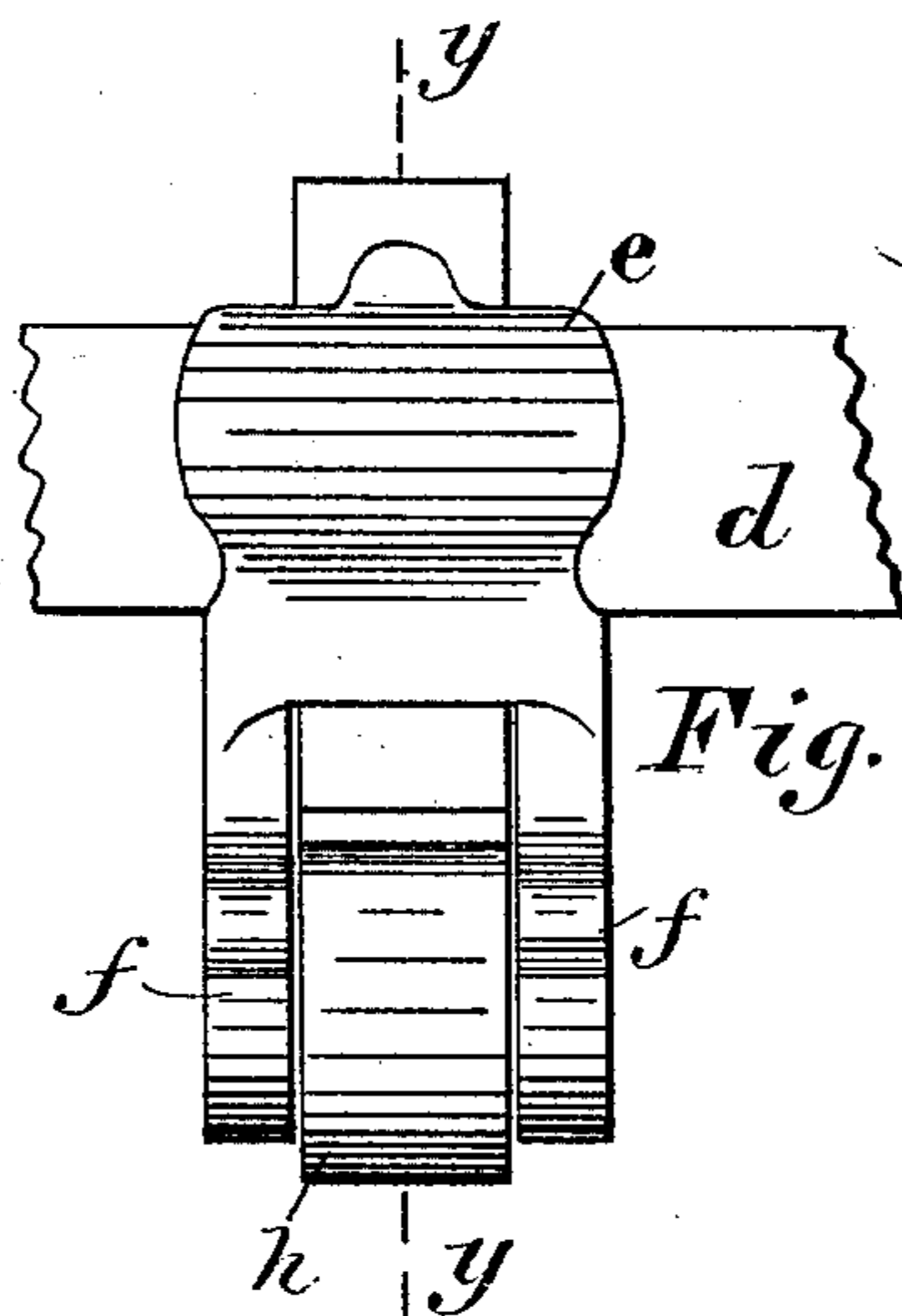


Fig. 3.

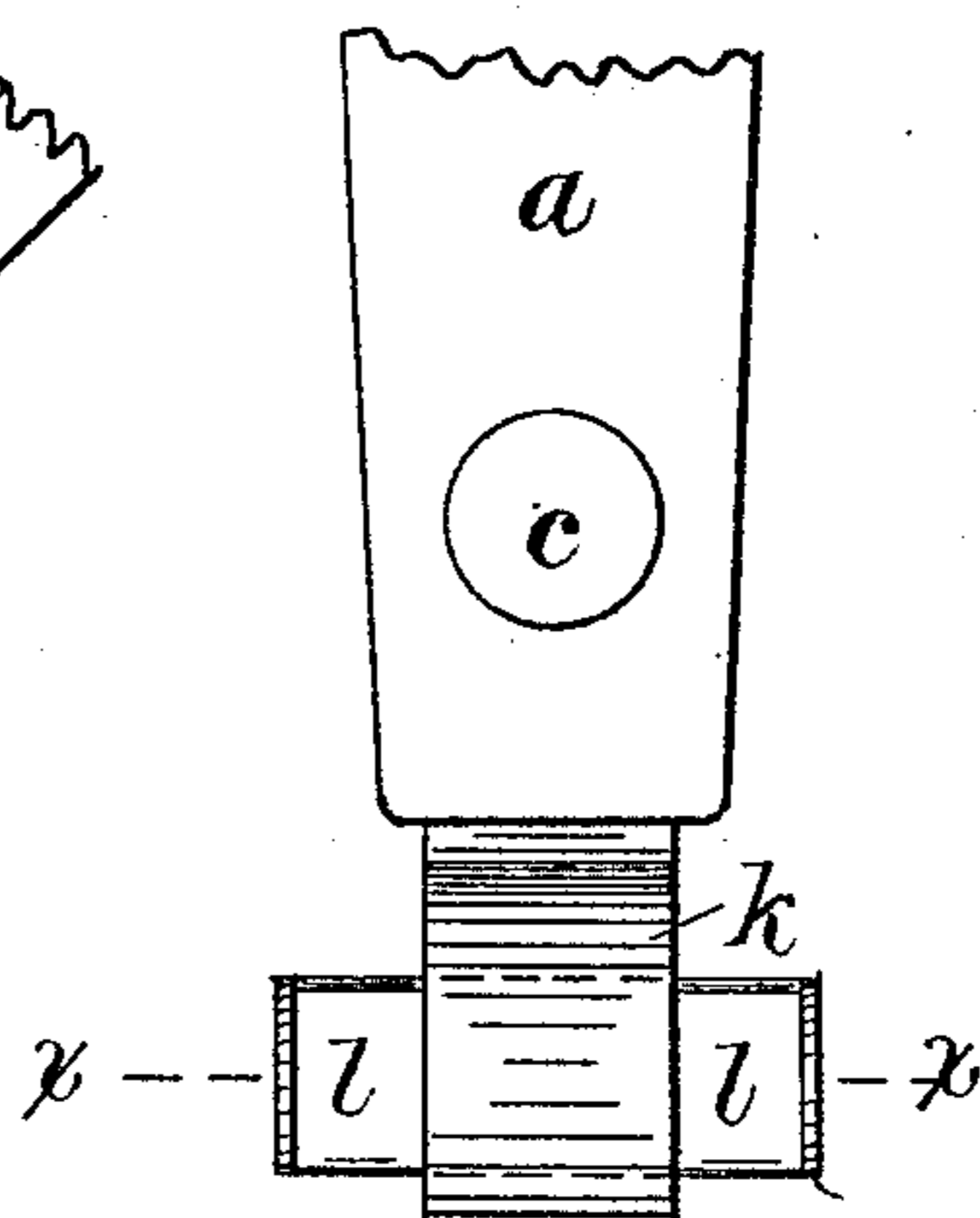


Fig. 6.

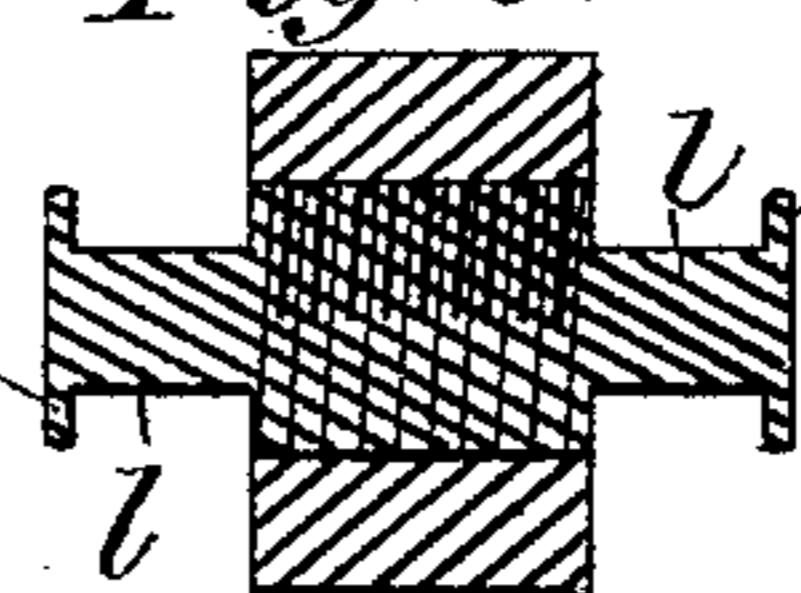


Fig. 7.

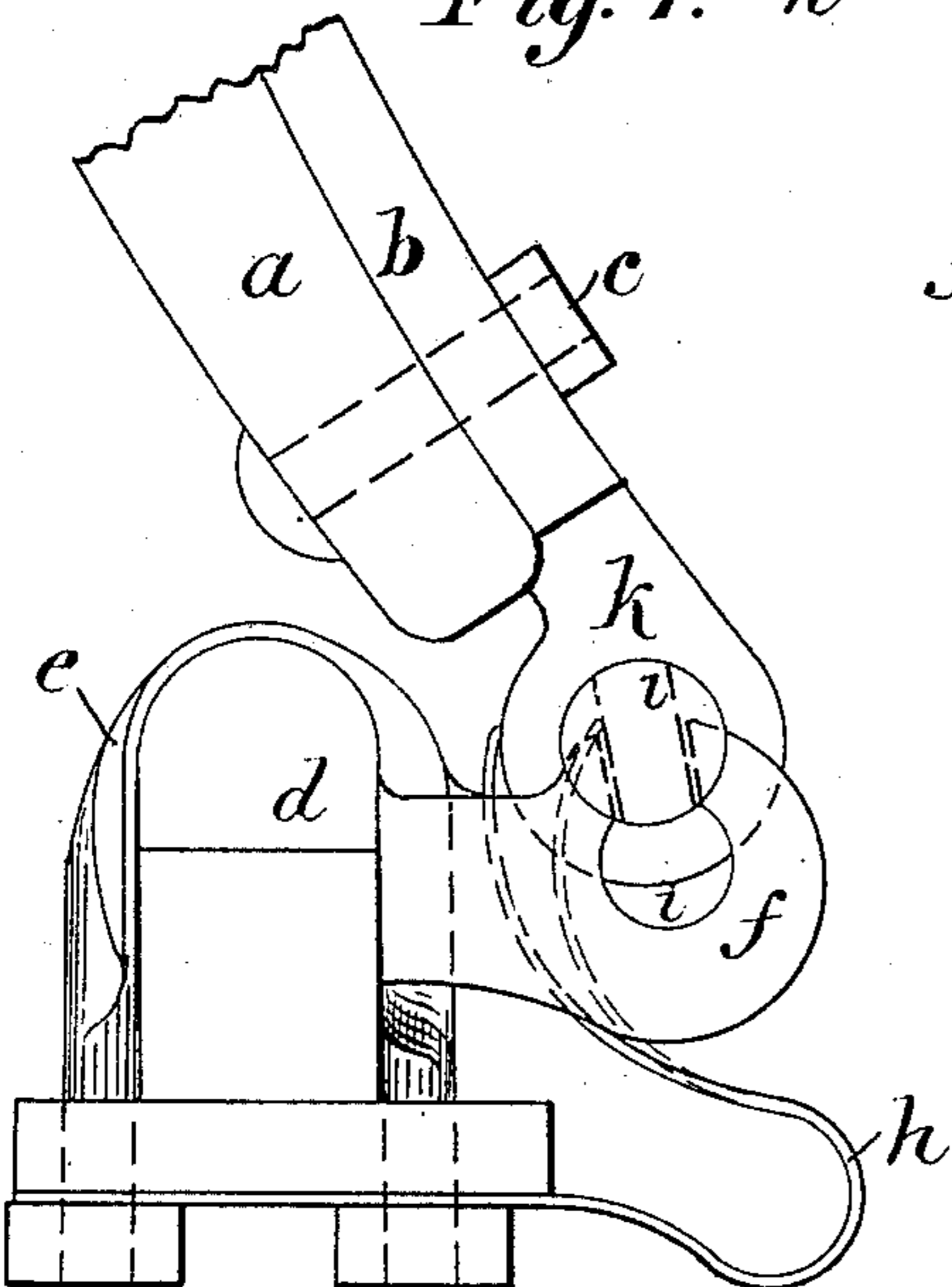


Fig. 2.

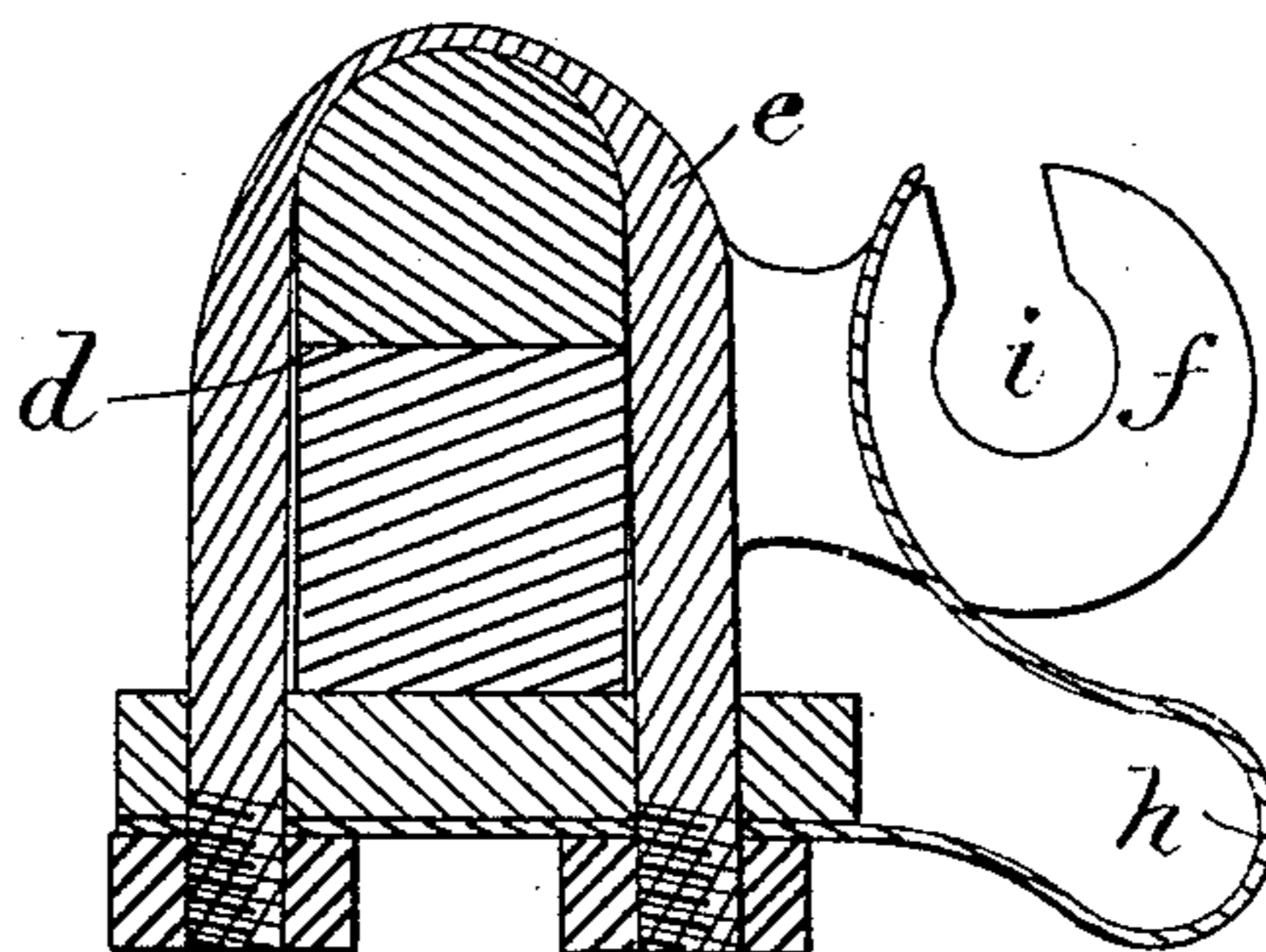


Fig. 4.

Witnesses
Geo. N. Fernald
Wm. S. Edwards

Inventor
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BY J. E. Reid ATTORNEY

UNITED STATES PATENT OFFICE.

WILLIAM A. MCNEAL, OF BATH, MAINE, ASSIGNOR OF TWO-THIRDS TO HENRY M. HARTLEB AND CHARLES CHELTRA, BOTH OF SAME PLACE.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 446,837, dated February 17, 1891.

Application filed October 25, 1890. Serial No. 369,359. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. MCNEAL, a citizen of the United States, residing at Bath, in the county of Sagadahoc and State of Maine, have invented certain new and useful Improvements in Carriage-Shafts; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

It is the purpose of my invention to provide a more convenient and at the same time more secure means of connecting shafts to carriages.

My invention consists in providing a shackle attached to the axle of the carriage, which permits the usual movement of the shafts, while admitting their insertion or withdrawal only when in a position other than any they can assume when in use.

The device in which I have embodied my invention comprises a slotted shackle of peculiar construction (with or without a spring) fixed to the axle of the carriage and a shaft-iron provided with a transverse pin, so constructed and arranged by flattening the opposite sides of pin that it may be inserted into the holder only when the shafts are in a position out of the line of draft and can be removed when in no other position.

Figure 1 is a side elevation of the axle, shackle, and shaft; Fig. 2, the same, the shaft being placed in the position in which it is when being connected with the shackle. Fig. 3 is a top plan of the shackle; Fig. 4, a vertical section on the line *yy* of Fig. 3. Fig. 5 is a front elevation, the shafts being removed; Fig. 6, a top plan of the shaft and attaching device; Fig. 7, a section of the shackle on the line *xx* of Fig. 6.

a is the shaft, and *b* the shaft-iron connected with its under side by means of the bolt *c*.

d is the axle of the carriage, of the usual construction, the wooden and iron parts thereof being connected together by the strap *e*. Connected with or cast upon the strap *e* are the two lips *ff*, of circular or other external form. (See Figs. 1 and 5.) The inner faces of these lips should be parallel and at right angles with the center of the axle. Each

is provided with a circular hole *i* (see Figs. 2 and 4) at or near the center, the corresponding parts of each being equidistant from the center of the axle. At or near the top and at similar points the lips *ff* are slotted down into the hole *i*, as seen in Figs. 1, 2, and 4, the faces of the slot being plane and parallel. The spring *h* may be connected with the axle by means of the strap-bolts, (see Figs. 1, 2, and 4,) its upper end passing between the lips in such manner as to engage any body placed between them. The end of the shaft-iron *b* consists of a plate *k*, slightly less in width than the distance between the interior faces of the lips *ff*, and of such shape otherwise as to admit of its free movement within the lips *ff*.

Passing through the plate *k* and having screw-threaded connection therewith is a rod or pin *l*, permitting the ready removal and renewal of said rod or pin when worn out or unfit for further use. Thus at the trifling cost of the duplication of a rod or pin the expense of providing an entirely new shaft-iron is avoided. This pin projects on either side of the plate *k* a distance slightly greater than the thickness of the lip *f*. The upper and lower surfaces of the pin *l* for a distance on either side of the plate equal to the width of the lip *f* are removed, so as to present two parallel plane surfaces, which shall be horizontal, or nearly so, when the shafts are in use, the distance between these surfaces being slightly less than the width of the slotted opening into the hole *i*.

The operation of the invention is obvious. To connect the shafts with the carriage they are elevated, as seen in Fig. 2, until the plane surfaces of the pin *l* can be passed through the slot into the hole *i*, and to remove them the process or movement is reversed. Upon the shafts being lowered to a horizontal position after they are thus connected with the carriage they are securely locked and without the possibility of separation while the carriage is in use. The spring *h* prevents all rattling of the parts, needs no renewal, and is much less expensive than the rubber hitherto used. By this means of construction bolts with nuts are rendered unnecessary,

and much time is saved in connecting and removing the shafts, this operation requiring but a few seconds instead of many minutes, as now.

5 What I claim as my invention is—

The above-described thill or shaft coupling, consisting of the shaft-iron, the pin or rod having the screw-threaded connection with the said shaft-iron and provided upon each
10 side of the latter with opposite parallel surfaces and at its ends with disk-shaped portions, the axle-clip having the slotted open-

ings adapted to receive the parallel surfaced portions of said pin or rod, and the spring held to said axle-clip and curved upward and
15 engaging said shaft-iron, substantially as set forth.

In testimony that I claim the foregoing as my invention I have hereunto set my hand this 17th day of October, A. D. 1890.

WILLIAM A. MCNEAL.

In presence of—

GEO. E. BIRD,

AUGUSTUS F. MOULTON.