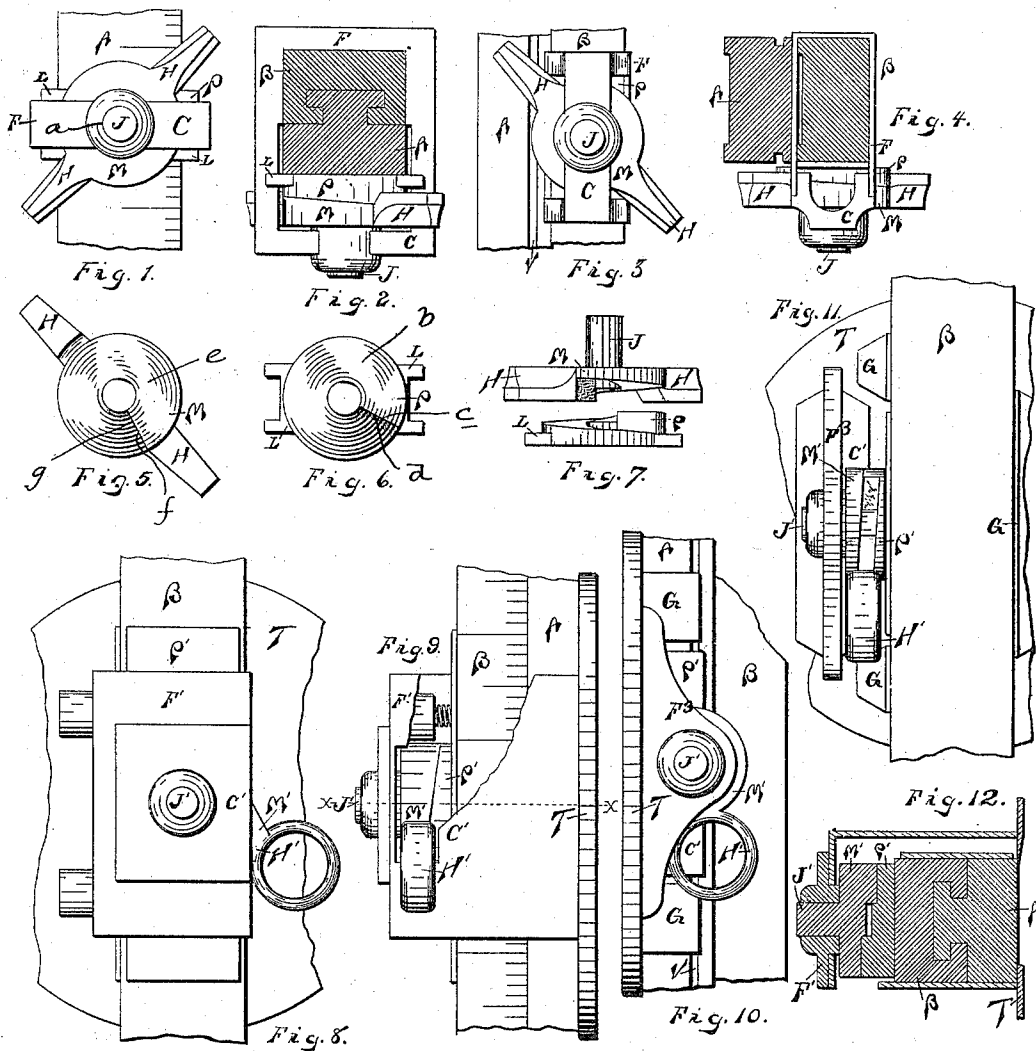


(No Model.)

C. F. WILSON.
LEVELING ROD.

No. 577,905.

Patented Mar. 2, 1897.



Witnesses,
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CHARLES F. WILSON, OF OTTAWA, ILLINOIS.

LEVELING-ROD.

SPECIFICATION forming part of Letters Patent No. 577,905, dated March 2, 1897.

Application filed January 4, 1894. Serial No. 495,722. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. WILSON, a citizen of the United States, residing at Ottawa, in the county of La Salle and State of Illinois, have invented certain new and useful Improvements in Clamps; and I do 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.

My invention relates to improvements in clamps; and it has for its general object to provide a simple and quick-acting clamp designed for adjustably fixing the sections of leveling-rods with respect to each other and connecting targets thereto.

Other objects and advantages of the invention will be fully understood from the following description and claims when taken in conjunction with the accompanying drawings, in which—

Figure 1 is a detail elevation illustrating my improved clamp as applied to what is known to engineers as a "New York" leveling-rod. Fig. 2 is a view showing the clamp in plan and the rod in section. Fig. 3 is a detail elevation showing my clamp as applied to a "Philadelphia" leveling-rod. Fig. 4 is a view showing said rod in section and the clamp in plan. Figs. 5, 6, and 7 are detail views of parts embodied in Figs. 1 and 2. Fig. 8 is a rear elevation, and Fig. 9 a side view, of a construction for adjustably fixing the sections of a New York rod with respect to each other and adjustably connecting a target thereto. Fig. 10 is a side view, and Fig. 11 a rear elevation, partly broken away, illustrating a construction for similar purposes applied to a Philadelphia rod; and Fig. 12 is a transverse section taken in the plane indicated by the line *xx* of Fig. 9.

Referring by letter to the said drawings, and more particularly to Figs. 1, 2, 5, 6, and 7 thereof, A and B indicate the two sections of a New York rod which are connected together and adapted to slide with respect to each other in the ordinary manner.

F indicates the frame of my improved clamp, which is of a rectangular form, is fastened in any suitable manner to the lower end

of section B, and is provided in its forward transverse bar C with a journal-aperture *a*, as illustrated.

P indicates the movable member of the clamp, which is preferably of a general circular form and is provided with the opposite lugs L, designed to engage the side bars of the frame F, and with the circular inclined plane *b*, which ends abruptly at *c* and forms an abutment *d*, and M indicates the partially rotatable or actuating member, through the medium of which the member P is moved to fasten or release the rod-sections A B. This member M is provided with a trunnion J, which bears in the aperture *a* of frame F, with a circular inclined plane *e*, which is designed to engage the inclined plane *b* of member P, and ends abruptly at *f* in a shoulder *g*, and with the diametrically opposite finger branches H, whereby it may be readily turned. When the clamp is released and the rod-sections A B are free to be moved with respect to each other, the abutments *d g* of the clamp members P M are contiguous to each other. When, however, the member M is turned toward the right, it will be seen that in virtue of the inclined plane *e*, impinging against the inclined plane *b*, it will instantly press the member P against the rod-section A and will consequently securely clamp the rod-sections together and hold them against movement with respect to each other. When the member M is turned toward the left, the pressure against the member P and the pressure of said member P against the rod-section A will be instantly relieved, and the sections A B may then be freely moved with respect to each other.

It will be noticed that my improved clamp is very quick in action, that it is simple and embodies but a few parts, and that none of the parts can be disconnected by the jolting to which leveling-rods are ordinarily subjected when carried in wagons or carriages over rough pieces of ground. This renders my improved clamp superior to those clamps which embody screws which are liable to be loosened and lost by the jolting mentioned.

Again it will be noticed that none of the parts of my improved clamp are liable to be

bent or broken in practice, and that the parts are not likely to be worn out even by frequent use for a long period of time.

The clamp shown in Figs. 3 and 4 as applied to a Philadelphia rod is the same as that shown in Figs. 1 and 2, with the exception that the frame F, which is connected in any suitable manner to the upper part of section A, surrounds but the section B, against which the clamp member P is pressed when it is desired to fix the sections with respect to each other.

In Figs. 8, 9, and 12 I have illustrated my improved clamp in conjunction with a target T and a New York rod. In this construction the frame F' is connected to the target T and embraces the rod-sections, and the movable member P' of the clamp is pressed against the rod-section B to fix the sections A B with respect to each other and the target by the member M', which has a finger-ring H' and a journal J', which is journaled in the transverse bar C' of the frame, as illustrated. This clamp is operated in the same manner as the clamps before described, and it will be seen that when the member M' is turned toward the right the rod-sections and the target will be fixed with respect to each other, while when said member is turned toward the left the rod-sections will be released and may be adjusted with respect to each other, and the target may be adjusted with respect to both rod-sections.

In Figs. 10 and 11 is illustrated a construction for adjustably fixing the sections of a Philadelphia rod and connecting a target T thereto. This construction is similar to that shown in Figs. 8, 9, and 14, with the exception that the frame F is connected to the section B and embraces but the section A, as shown. The clamp embodied in this construction is operated in substantially the same manner as the clamps before described, and more particularly that shown in Figs. 3 and 4, it being seen that when the clamp member M is turned in one direction the movable clamp member P will be forced against the rod-section A, and the rod-sections A B and the target will be fixed with respect to each other, while when the member M is turned

in the opposite direction the rod-sections will be released and may be adjusted with respect to each other, and the target may be adjusted with respect to the section A.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination with a leveling-rod comprising two or more longitudinal sections adapted to move lengthwise with respect to each other; of the clamp mounted on the rod and connected to one of the sections thereof and adapted to adjustably fix the sections with respect to each other; the said clamp comprising a frame, a member carried by and permanently connected to and movable with respect to the frame and having a circular inclined plane upon one of its faces, and a rotatable or partially-rotatable member having a circular inclined plane upon its face, contiguous to the first-named member, adapted to impinge against the inclined plane of said member and also having a trunnion journaled in one of the bars of the frame, substantially as specified.

2. The combination with a leveling-rod comprising two or more longitudinal sections adapted to move lengthwise with respect to each other, and a target; of a clamp mounted on the rod and connected to one of the sections thereof and adapted to adjustably fix the said sections with respect to each other; the said clamp comprising a frame connected to the target, a member carried by and permanently connected to and movable with respect to the frame, and having a circular inclined plane upon one of its faces, and a rotatable or partially-rotatable member having a circular inclined plane upon its face, contiguous to the first-named member, adapted to impinge against the inclined plane of said member and also having a trunnion journaled in one of the bars of the frame, substantially as specified.

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

CHARLES F. WILSON.

Witnesses:

R. D. McDONALD,
LEROY L. MCKINLEY.