No. 740,742. PATENTED OCT. 6, 1903.

J. F. BUSH.

RULE.

APPLICATION FILED NOV. 20, 1901.

NO MODEL.

FIG. 1.

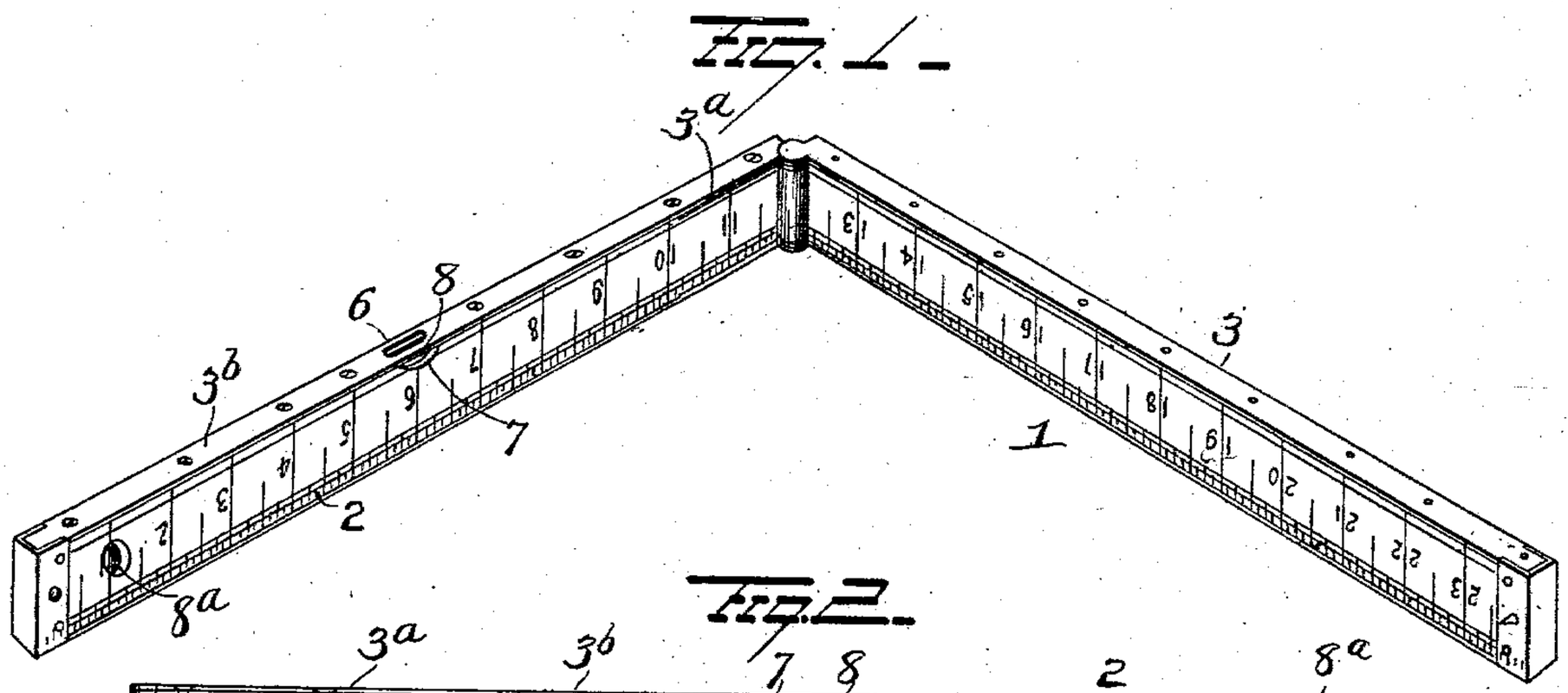


FIG. 2.

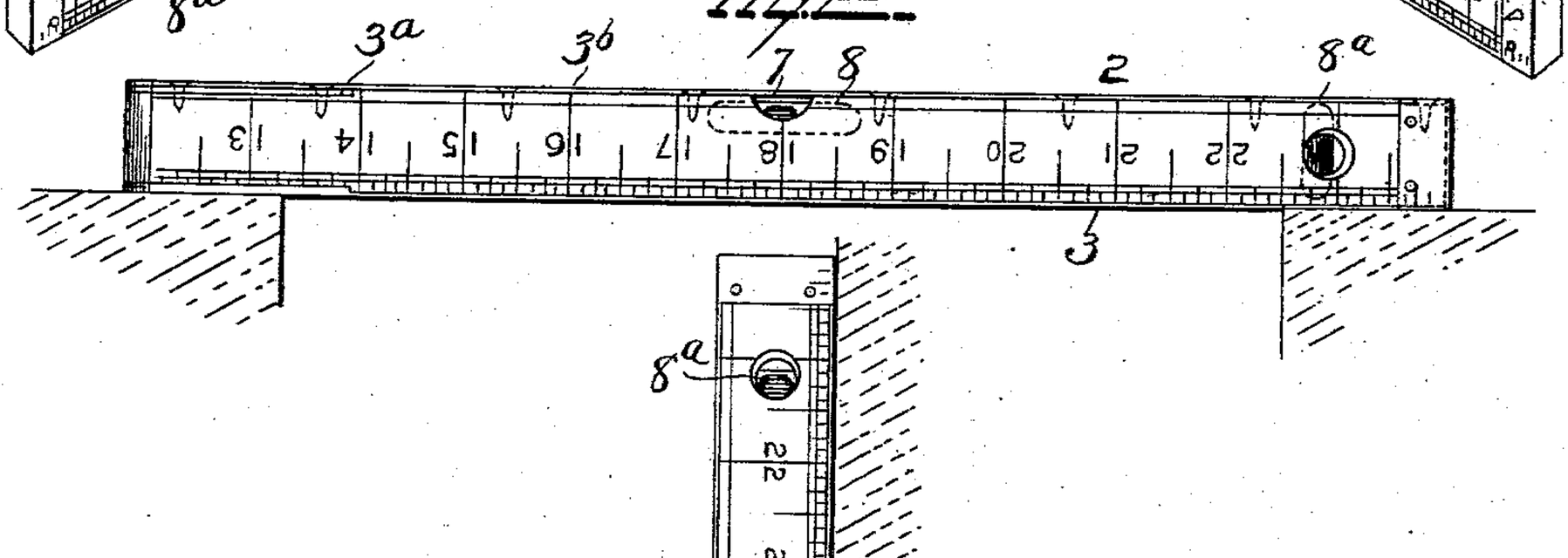


FIG. 3.

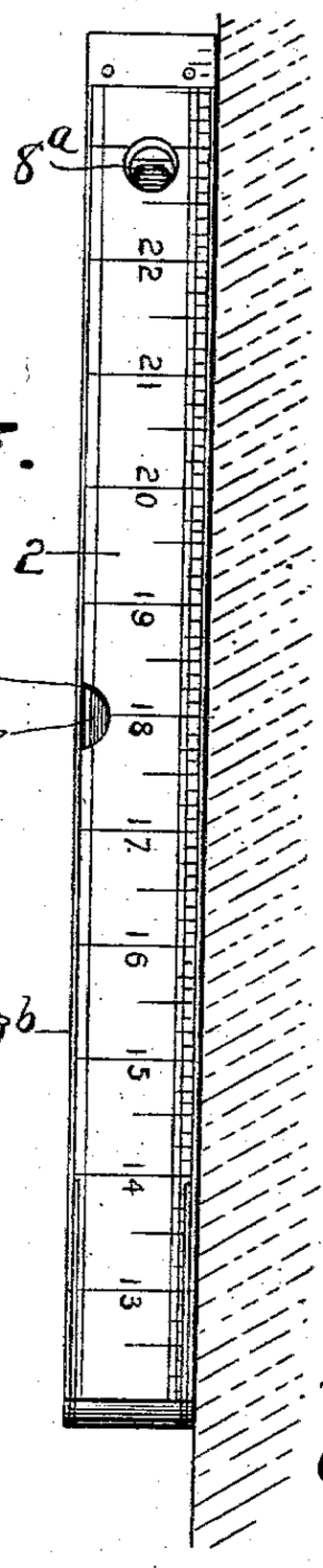


FIG. 4.

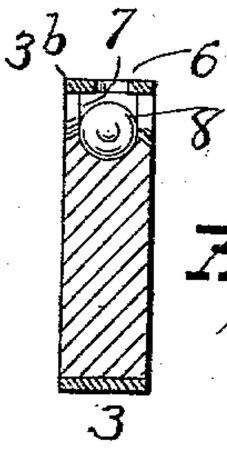
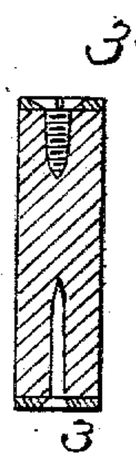


FIG. 5.



WITNESSES

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No. 740,742. Patented October 6, 1903.

UNITED STATES PATENT OFFICE.

JAMES F. BUSH, OF WATERVILLE, MAINE.

RULE.

SPECIFICATION forming part of Letters Patent No. 740,742, dated October 6, 1903.

Application filed November 20, 1901. Serial No. 83,028. (No model.)

To all whom it may concern:

Be it known that I, JAMES F. BUSH, of Waterville, in the county of Kennebec and State of Maine, have invented certain new and useful Improvements in Rules; 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.

My invention relates to an improvement in rules, and more particularly to a combined rule, level, and plumb, the object of the invention being to provide a device of this character which can be conveniently carried from place to place and which will perfectly perform all of the above functions, hence dispensing with the necessity for separate instruments therefor.

With this object in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter described, and pointed out in the claim.

In the accompanying drawings, Figure 1 is a view illustrating my improvements. Fig. 2 is an enlarged view illustrating the leveling instrument. Fig. 3 is an enlarged view illustrating the plumb, and Figs. 4 and 5 are sectional views.

1 and 2 represent the two parts of the rule marked to indicate inches and fractions thereof. Each part is protected at its free end by a metal cap covering the end and overlapping the two faces of the rule, the said caps being secured in place by rivets, while the edges of the parts, with the exception of one edge of part 2, are covered and protected by the metal strips 3, permanently secured in place by rivets. The strips 3 of part 1 of the rule also form the hinge by which the two parts are pivotally connected together, while the hinge-sections of the part 2 of the rule are formed of short arms 3^a, set down within recesses formed in the opposite edges of part 2 and secured therein by rivets. One edge of this part 2 is, as before stated, covered and protected by a metal strip riveted in place, while the other edge, which carries the spirit tube or vial, is covered by a strip 3^b, secured in place by screws, thus permitting it to be readily removed, so as to enable the tube or vial to be gotten at for repairs. This strip 3^b also covers and protects the opening carrying the tube 8. Hence by the removal of the one strip both tubes become readily accessible for renewal and repairs.

The section 2 of the rule along the edge covered by the removable strip is recessed to receive a closed glass tube 8, above referred to, containing water or other liquid and having an air-bubble therein to indicate the level of the support on which the rule is placed, and the metal strip 3^b is slotted, as shown at 6, and the side of the rule proper notched, as shown at 7, to permit a view of the instrument from either the top or side.

A recess or pocket is made near one end of section 2 and also covered by said removable strip to receive a transversely-disposed glass or transparent tube 8^a, located at an exact right angle to the edges of the rule, adapted to contain liquid and an air-bubble therein, and an opening is made in one side of the rule through which the tube can be viewed. I term this part of my invention a "plumb," as it will demonstrate perpendiculars or vertical planes. For instance, if either edge of the rule is held against an upright or wall the air-bubble in the tube 8^a will indicate whether or not the same is perfectly vertical or perpendicular, as the tube 8^a is located at an exact right angle thereto and it cannot assume a perfectly horizontal position unless the surface is perpendicular.

It will be seen that both tubes 8 and 8^a are so held within the rule as to protect them from injury, making it practically impossible to break them, hence lengthening the life of the instrument.

With my improvements I am enabled to measure both horizontals and verticals and at the same time expose any defects in the angle, and when the rule is opened out to its full length a large surface can be covered.

While I have shown my improvements as a two-foot rule, it might be longer or shorter and various other slight changes might be resorted to in the general form and arrangement of the several parts described without departing from the spirit and scope of my invention, and hence I would have it understood that I do not wish to limit myself to the precise details set forth, but consider myself at liberty to make such slight changes and

alterations as fairly fall within the spirit and scope of my invention.

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

As a new article of manufacture, a rule having a groove or recess in one longitudinal edge and having a socket near one end at right angles to the axis of the rule and extending to one edge of the rule to facilitate the insertion of a spirit-level, the face of the rule having an opening communicating with said socket, a spirit-level in the recess in the longitudinal edge of the rule, another spirit-level in the transverse socket in the rule, and a single strip of metal having a slot or opening therein over the spirit-level in the edge of the rule, said strip secured to the edge of the rule and extending over the recess or groove therein and also extending over the end of the transverse socket and closing the same to hold the transverse spirit-level in place, and removable fastening devices securing said metal strip in place.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JAMES F. BUSH.

Witnesses:
JAMES L. HANCOCK,
FRANK J. HUGHES.