(No Model.) 2 Sheets—Sheet 1.

F. B. TROUT.

LOCKING HAT RACK.

No. 490,326. Patented Jan. 24, 1893.

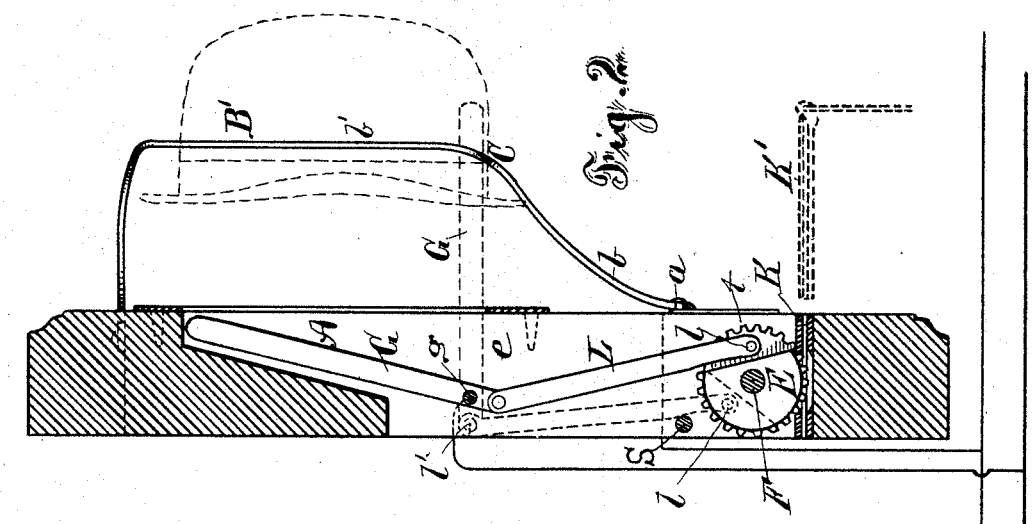

Fig. 2.

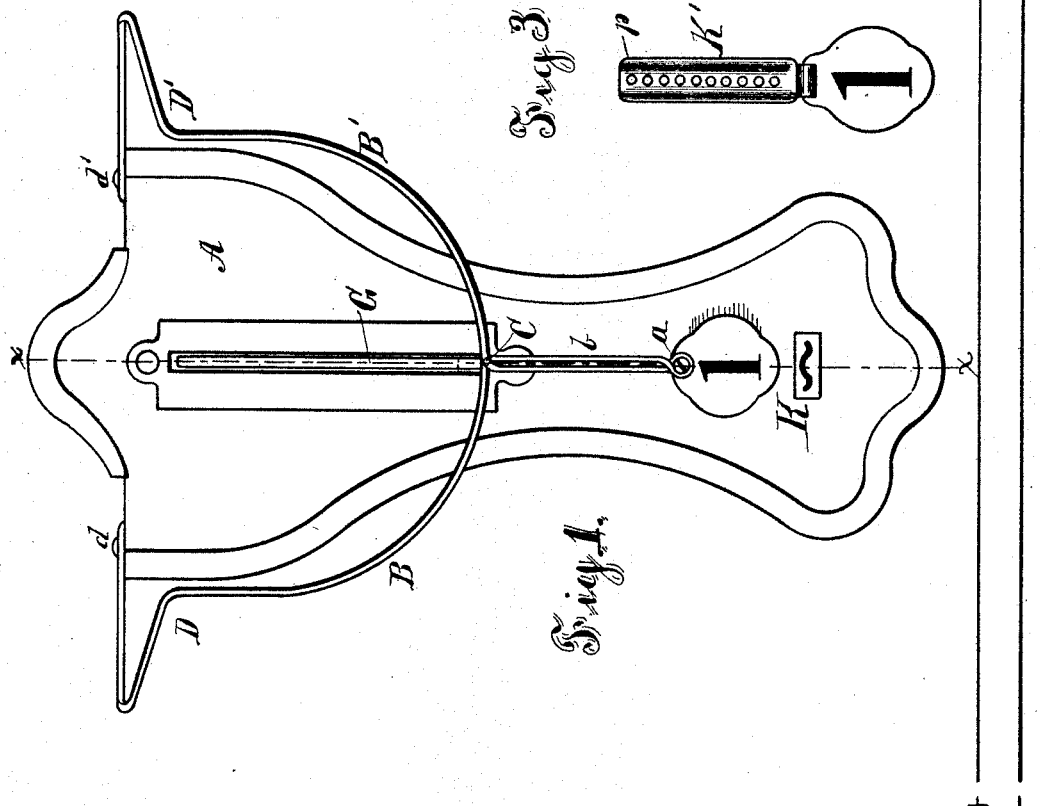

Fig. 1.

Fig. 3.

WITNESSES

F. Clough.

D. H. Bradford.

INVENTOR

Frank B. Trout

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(No Model.) 2 Sheets—Sheet 2.

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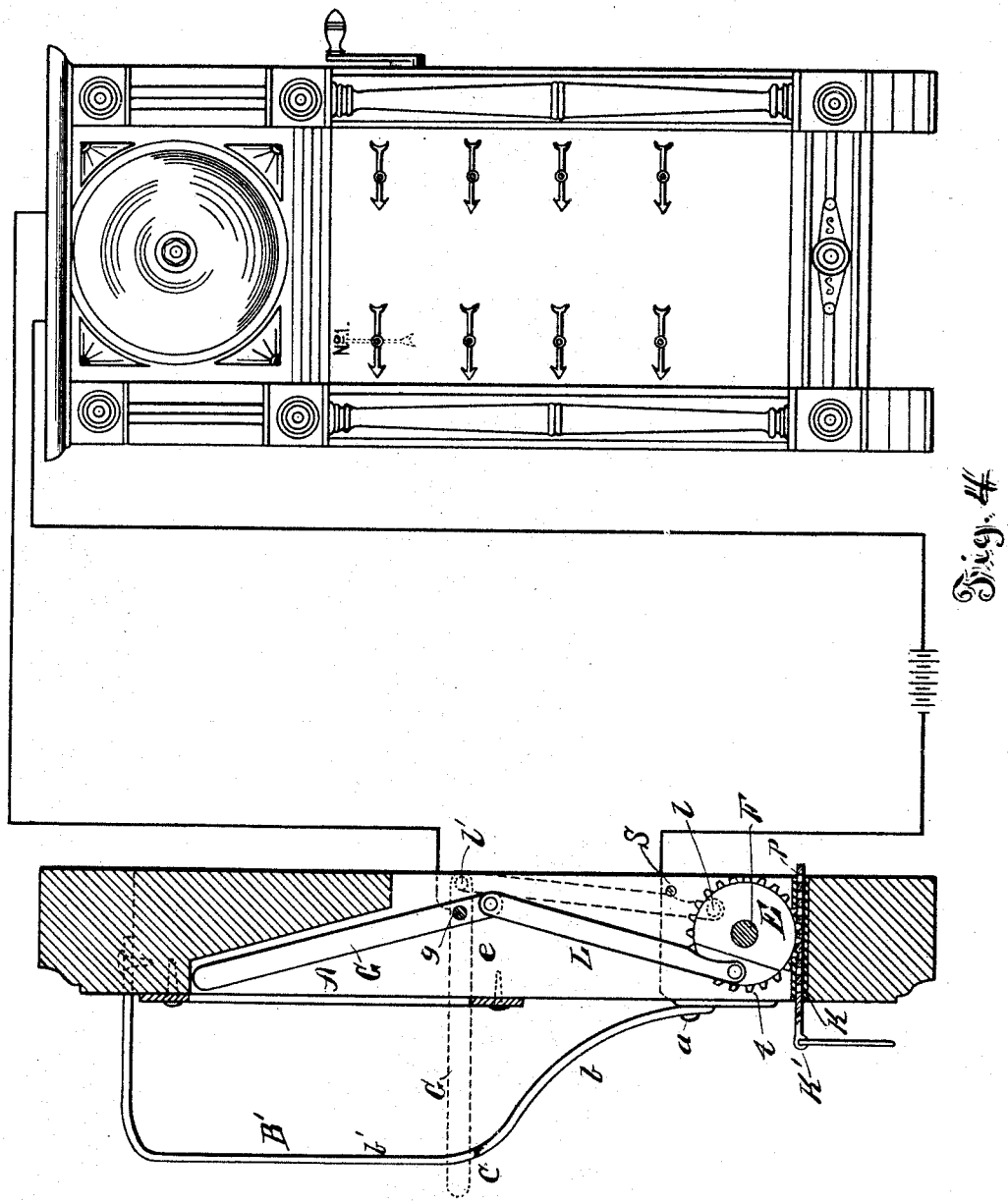

Fig. 4.

WITNESSES
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UNITED STATES PATENT OFFICE.

FRANK. B. TROUT, OF DETROIT, MICHIGAN.

LOCKING HAT-RACK.

SPECIFICATION forming part of Letters Patent No. 490,326, dated January 24, 1893.

Application filed June 13, 1892. Serial No. 436,481. (No model.)

To all whom it may concern:

Be it known that I, FRANK. B. TROUT, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Locking Hat-Racks; and I 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 pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to hat-racks, and has for its object an improvement in that form of hat-rack in which the hat is placed in the position and held by a locking device so that its removal is impossible by any persons not possessed of the proper key with which to unlock the holding parts of the rack.

A further improvement consists in connecting with the locking device an electric signal, of which the terminals are held out of contact by the hat when in position in the rack, but the terminals come into contact if the hat is forced improperly out of the rack without unlocking the holding parts, as might sometimes be done with soft felt hats.

In the drawings, Figure 1 is a front elevation of a single hat rack. Fig. 2 is a section from front to rear on the line *x x* of Fig. 1. Fig. 3 is the key used to unlock the rack. Fig. 4, indicates the connection between the rack and an annunciator.

A represents the frame, preferably made of wood. B, B′, indicate the two arms of a spring wire secured to the frame piece A at *a*, from whence the two arms of the loop *b* reach upward and forward for a distance sufficient to receive behind them the brim of an ordinary hat.

At C the two branches B and B′ bend sidewise and upward in regular curves forming nearly or quite a half circle to the points D and D′. From the points D and D′ the two wires are bent sharply sidewise and curved backward until they again reach the frame A, where they are secured by the pins or screws *d*, *d*′. At C the two branches B and B′ lap slightly so that they may spring sidewise and still continue to form a complete unbroken metallic terminal, as hereinafter described.

Within the frame A is a vertical slot *e*, and within the slot at the lower part just above the key-hole K is secured a toothed wheel E, turning on a shaft F. The teeth of the toothed wheel E extend into and through the key way K. To the wheel E is secured a link L, by a wrist pin *l*, the upper end of the link L is hinged to a lever G, and the lever G is secured to the frame A by a fulcrum pin *g*. The key-hole K is a thin wavy slot, as shown in Fig. 1, adapted to receive a thin corrugated key, K′, of Figs. 3 and 2. The key K′ is perforated throughout its length or a part of its length with pin holes *p*, into and through which the teeth *t* of the wheel E engage.

In Fig. 2 the full lines show the position of the lever G, wheel E and link L when the rack is unlocked, at which time the key K′ would be inserted in the key-way. The dotted lines in the same figure show the position when the rack is locked and the key removed from the key-way. The wrist pin *l* is eccentric to the center of the wheel E, and in locking the parts in the position shown by dotted lines, the link L rises over the shaft F, and the wrist pin *l* assumes a position such that it is thrown slightly over beyond a straight line uniting the pin *l*′ and the center of the shaft F, and against the stop peg S, so that any attempt to unlock the rack by lifting from the end of the lever G is ineffectual.

In operation the key is intended to remain in its place in the key hole when there is no hat in the rack and when the key is in place the locking lever G, assumes the position shown in full lines in Fig. 2. In order to lock a hat into the rack, the hat is dropped with its crown outward, and with the lower half of the rim behind the curved wires B, B′, until the hollow in the crown passes low enough down to permit the lever G, to assume a horizontal position within the crown. The key K′, is then withdrawn from the key hole, and in withdrawing turns the wheel E, on its axis and causes the lever G, to assume a horizontal position within the hollow of the crown of the hat, so that the hat is now held between the embracing wires B, B′, the frame A, and the lever G.

I connect an electric conducting wire with the frame wires B, B′, and a second electrical

wire with the lever G or the pin *g* on which it turns. The two wires lead to an annunciator at any convenient place, and are properly connected with a battery in the well-known way. Whenever the lever G is thrown forward and down into contact with the spring wires B, B′, without the interposition of a hat or some other insulating substance, electrical contact is made between the lever G and the wires B, and the annunciator discloses the fact, and if any attempt is made to force a hat out of position while the parts are locked with the hat in it, the lever G at once falls into contact with the holding wires B and announces the fact. The key way K should be so narrow as to prevent the introduction into it of anything except a very thin piece of metal, and the corrugations of it should be so sharp as to prevent the introduction of a pen-knife blade or similar piece of metal.

What I claim is—

1. In a hat rack, the combination of a holding frame, a locking lever, an actuating wheel actuating said locking lever, an interposed link connecting the wheel and lever, substantially as and for the purpose described.

2. In a hat-rack, the combination of the hat holding frame, a locking lever, a toothed wheel adapted to operate said locking lever, a corrugated key-way, and a corrugated key provided with perforations, the teeth of the said toothed wheel extending into said key-way and adapted to engage with the perforations of said key, substantially as and for the purpose described.

3. In a hat rack, the combination of a metallic holding frame, a locking lever adapted to be thrown into locking engagement with said holding frame, an electric circuit, one terminal of which is formed by said holding frame, and another of which is formed by said locking lever, the said terminals being adapted to be insulated from each other by an interposed hat, and to form an electrical contact on the improper removal of such insulating hat, substantially as for the purpose described.

In testimony whereof I sign this specification in the presence of two witnesses.

FRANK. B. TROUT.

Witnesses:
EFFIE I. CROFT,
CHARLES F. BURTON.