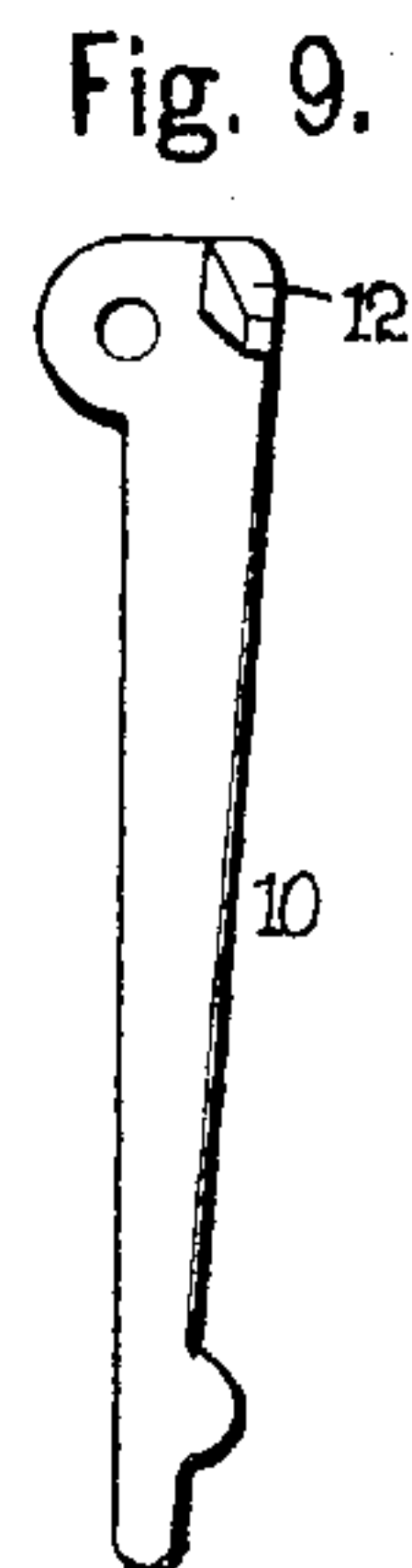
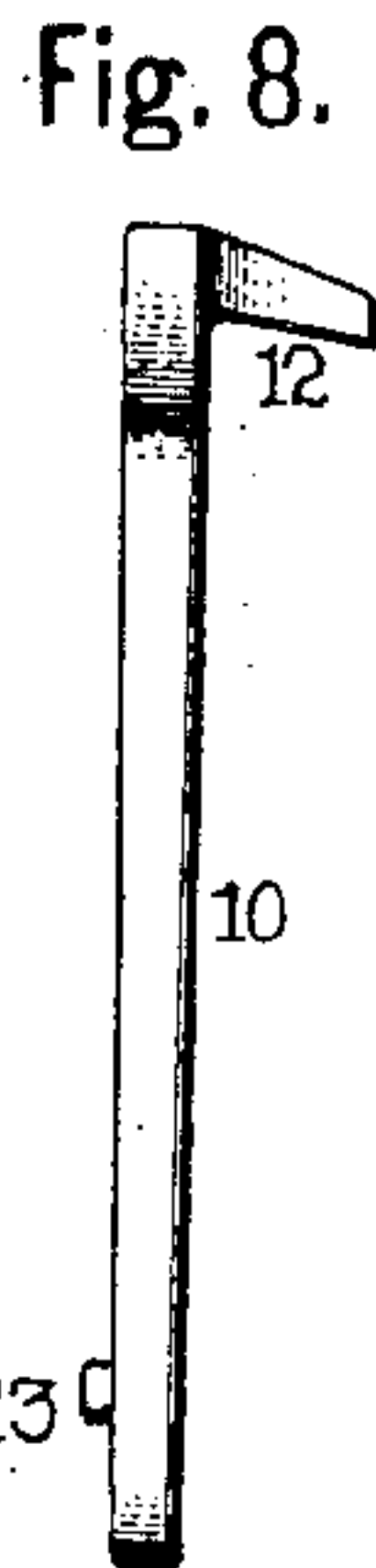
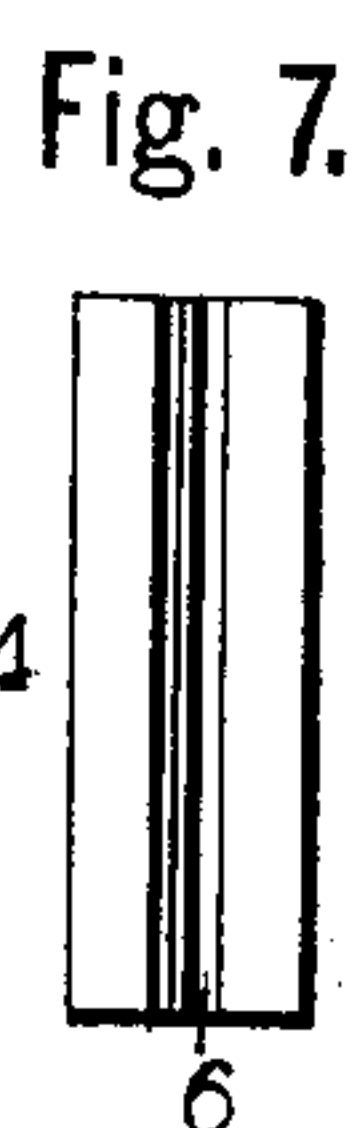
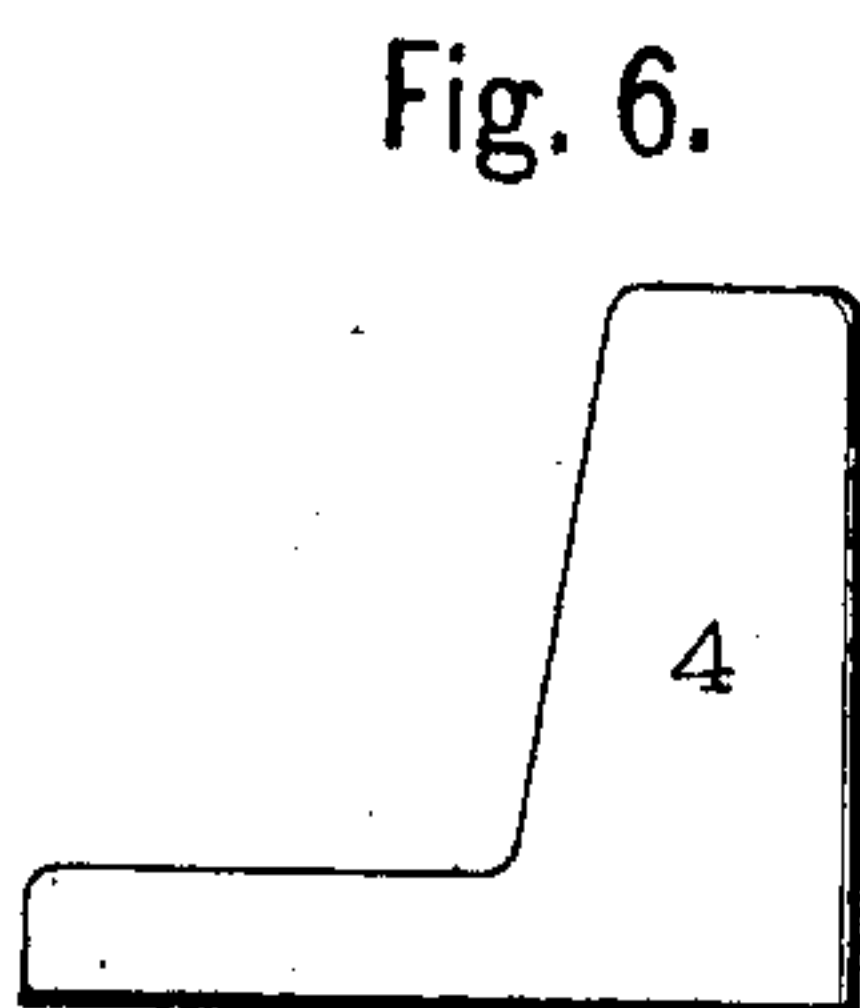
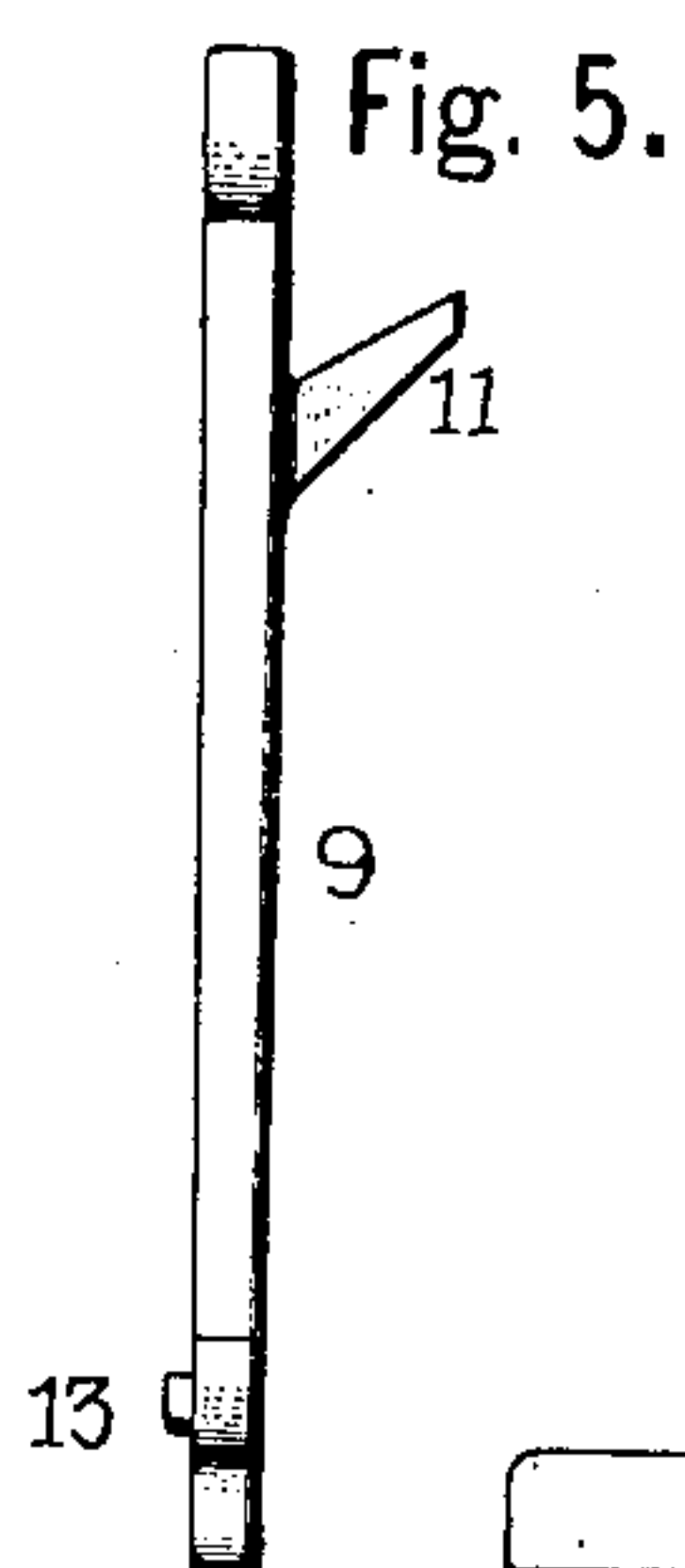
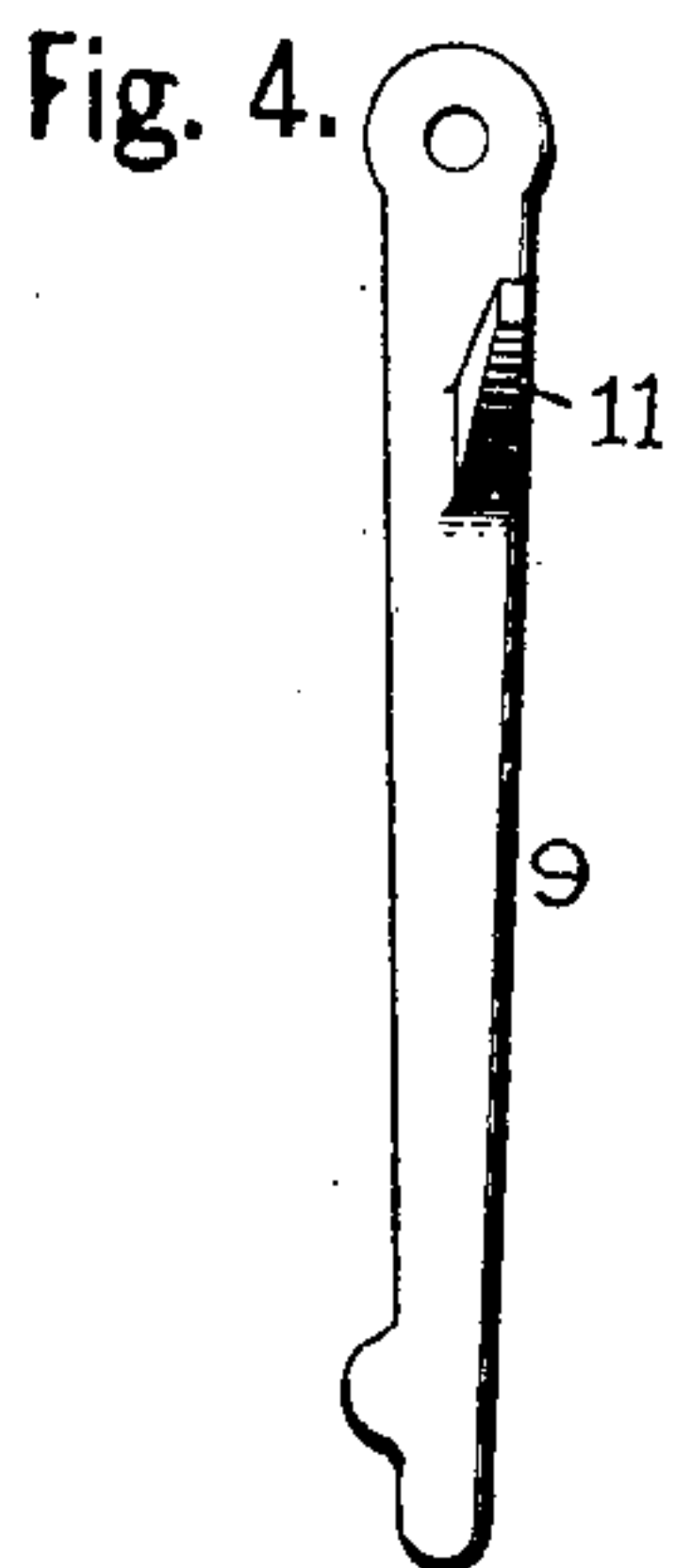
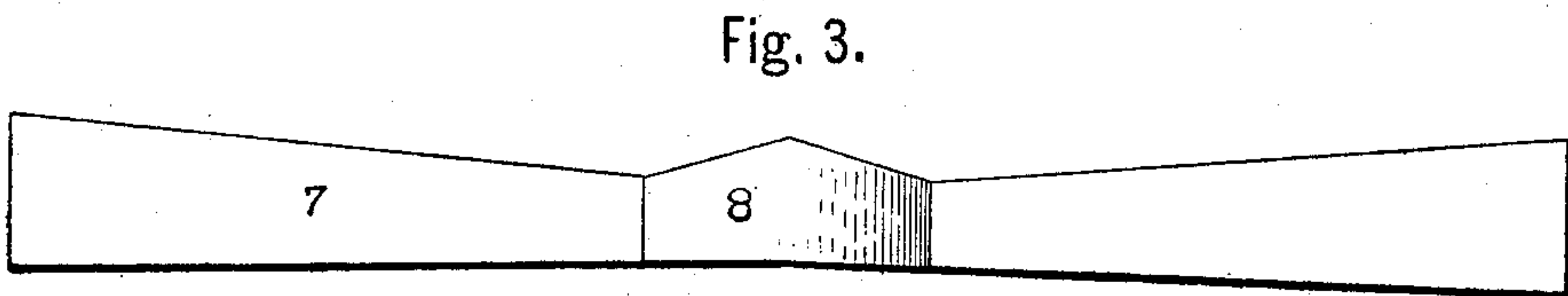
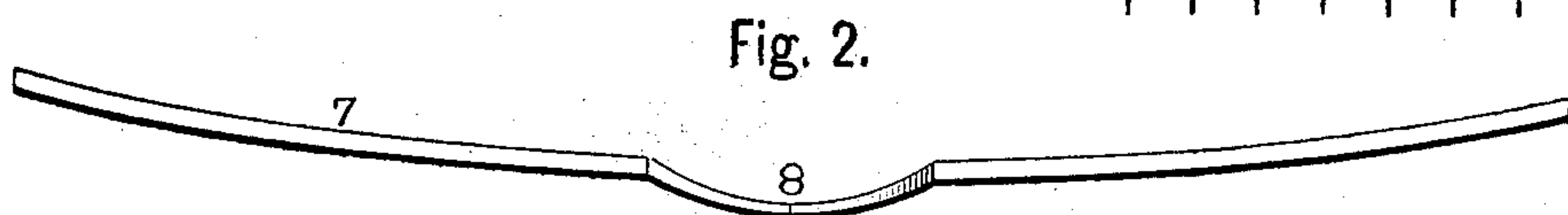
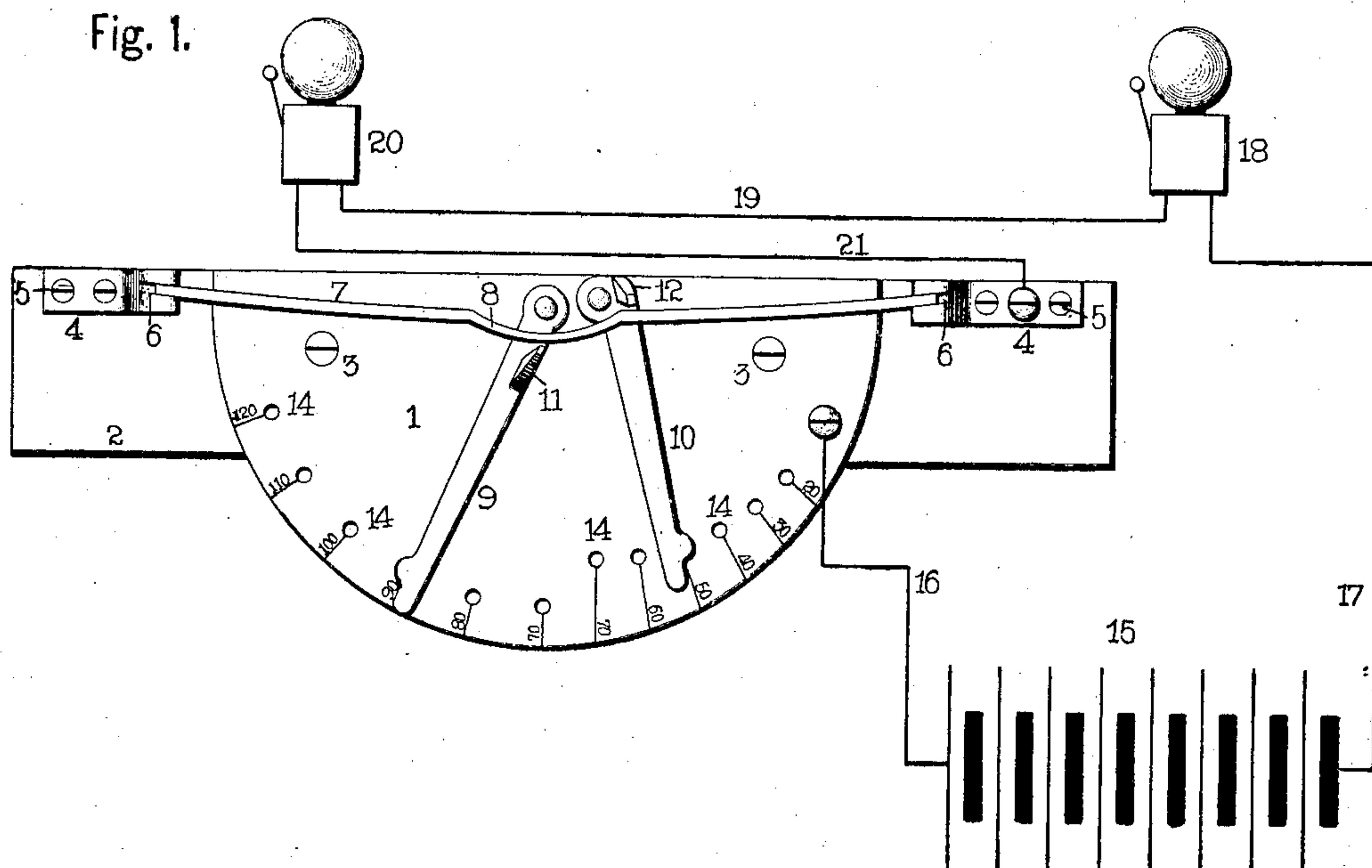


No. 827,120.

PATENTED JULY 31, 1906.

W. O. REHN.
ELECTRIC ALARM.
APPLICATION FILED OCT. 11, 1904.



Witnesses.
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UNITED STATES PATENT OFFICE.

WILLIAM O. REHN, OF DUNKIRK, NEW YORK.

ELECTRIC ALARM.

No. 827,120.

Specification of Letters Patent.

Patented July 31, 1906.

Application filed October 11, 1904. Serial No. 228,022.

To all whom it may concern:

Be it known that I, WILLIAM O. REHN, a citizen of the United States, residing at Dunkirk, in the county of Chautauqua and State of New York, have invented certain new and useful Improvements in Electric Alarms, of which the following is a specification.

This invention relates to an improved electric alarm in which the contraction or expansion caused by differences in temperature is utilized to complete an electric circuit and operate an alarm.

The object of this invention is to produce a cheap and accurate alarm which can be set for automatic operation at different degrees of temperature.

The invention also relates to certain details of construction, all of which will be fully and clearly hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 represents a diagrammatic view of my improved alarm. Fig. 2 is an enlarged detached edge or top view of the metal strip. Fig. 3 is an enlarged detached side view of the metal strip. Figs. 4 and 5 are enlarged detached views of one of the indicating-hands. Figs. 6 and 7 are enlarged detached views of one of the slotted supporting-blocks for the metal strip. Figs. 8 and 9 are enlarged detached views of another indicating-hand.

In referring to the drawings for the details of construction like numerals designate like parts.

The alarm is composed of a plate having a temperature-indicating scale and supporting-blocks, a metal contracting and expanding strip having its ends supported from the blocks, a movable indicating-hand arranged to be set relatively to the temperature-indicating scale and having a part in proximity to the metal contracting and expanding strip, a battery, an electric bell, and wires connecting the battery, electric bell, and plate.

The plate 1, which is preferably formed of aluminium, has a curved lower edge on the margin of which a temperature-indicating scale is arranged. The plate 1 is fastened to a base 2 by screws 3 or similar means, which in turn is attached to a wall or other suitable place. The base is preferably of a long rectangular form, and a supporting-block 4 is secured by screws 5 at or near each end there-

of. These blocks are preferably formed of aluminium in the shape shown in Figs. 6 and 7 and are each provided with a slot 6. (See Fig. 7.) A metal strip 7 has its ends fitted in the slots 6 in the blocks 4 and extends across and above the plate 1. (See Fig. 1.) This strip is at least in part of a bowed form and is capable of expanding and contracting under the influence of changes in temperature to cause the bowed part to assume a greater or lesser curved form. In the preferable construction shown in Figs. 1, 2, and 3 but a relatively small central portion of the strip is bowed, as shown at 8 in said figures.

A plurality of indicating-hands are pivoted to the plate 1 and extend in proximity to the temperature-scale or numeral indicating degrees of temperature on the plate. These hands are preferably two in number, being designated, respectively, on the drawings by the numerals 9 and 10, and both are pivoted to the plate in the vicinity of the bowed portion 8 of the strip. The indicating-hand 9 has a lateral outwardly-extending lug 11 located slightly below its pivoting-point, which is adapted to contact with the lower surface of the strip, and the indicating-hand 10 has a similar lateral outwardly-extending lug 12, which is located to one side of its pivoting-point (see Figs. 8 and 9) and is adapted to contact with the upper surface of the strip. The indicating-hands 9 and 10 are retained in their adjusted position by small projections 13 on their under surface, which spring into any one of a curved row of holes 14 in the plate. (See Fig. 1.)

A battery 15 is arranged in any convenient place and is connected by a wire 16 to the plate 1 and by a wire 17 to an electric bell 18. One or more bells can be employed, being placed in different rooms or locations, if desired. In the adaptation shown two bells are illustrated, which are connected together by a wire 19, the bell 18 being connected to the battery 15 by the wire 17, as before described, and the bell 20 being connected to one of the supporting-blocks by a wire 21.

The operation of the device is as follows: The indicating-hand is set or turned to the numeral indicating the temperature at which the alarm will be operated, and when that temperature is reached the contraction or expansion of the metal strip causes it to assume more or less of a bowed shape and to

contact with the lateral lug of the indicating-hand, which completes an electric circuit and rings the electric bell.

This device can be operated either by an increase or decrease of temperature, and one of the great advantages is that an even temperature can be maintained in a room by its aid by setting one hand at, say, sixty degrees and the other at eighty degrees, so that a change of temperature in either direction beyond this limited scale will operate the alarm, thereby notifying the people that the temperature has either increased above eighty degrees or decreased below sixty degrees, so that they may regulate the temperature. This is especially advantageous in sick-rooms.

The plate, supporting-blocks, contracting and expanding strip, and the indicating-hands are all preferably cast or otherwise formed from aluminium, which is very light and a good conductor of electricity.

I claim as my invention—

1. In an alarm of the class described, a metal strip capable of expanding and contracting under influence of temperature changes, and having a bowed portion, a pivoted indicating-hand having a part extending in proximity to the bowed portion of the metal strip, an electric bell, a battery, and wires connecting the electric bell, metal strip, indicating-hand and battery; said metal strip contacting with the indicating-hand to complete a circuit and operate the bell when the indicated temperature is reached, substantially as set forth.

2. In an alarm of the class described, a metal strip capable of expansion and contraction through changes in temperature and having a bowed portion, a plurality of indicating-hands, one having a lug projecting in

proximity to the upper surface of the bowed portion of the strip and another having a lug projecting in proximity to the lower surface of the bowed portion of the strip and an electric bell electrically connected to the metal strip and the indicating-hands whereby contact of the bowed portion of the metal strip with the lug of either indicating-hand will complete a circuit and ring the electric bell, substantially as set forth.

3. In an alarm of the class described, a metal strip capable of expansion and contraction through changes in temperature comprising a central bowed portion and a straight portion on each side of said bowed portion, a plate having a temperature-indicating scale, an indicating-hand pivoted to the plate and having a part projecting in proximity to the central portion of the metal strip, and an electric bell adapted to be operated by the contacting of the bowed portion of the metal strip and the projecting part of the indicating-hand, substantially as set forth.

4. In an alarm of the class described, in combination, a base, two supporting-blocks, one at each end of said base, and each having a slot, a metal strip capable of expansion and contraction through changes in temperature provided with a bowed portion and having its ends fitted in the slots in the supporting-blocks, an indicating-hand, an electric bell adapted to be operated by the completion of a circuit through the movement of the bowed portion of the metal strip into contact with the indicating-hand, substantially as set forth.

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Witnesses:

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