(Model.)

W. H. BEATH.

SPRING HINGE.

No. 390,054. Patented Sept. 25, 1888.

Fig. 1.

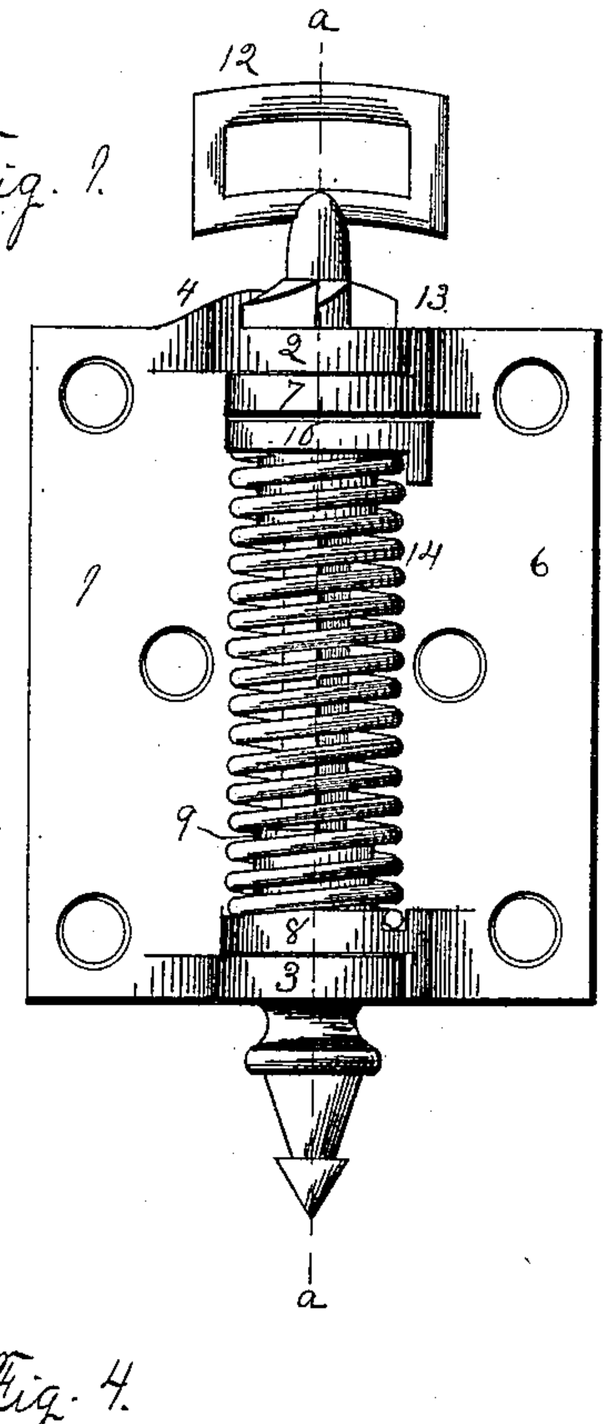


Fig. 2.

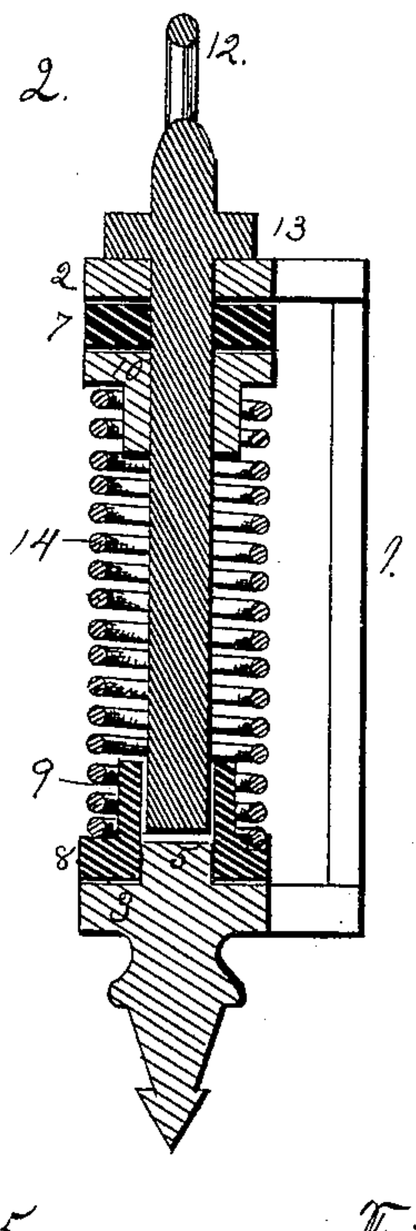


Fig. 6.

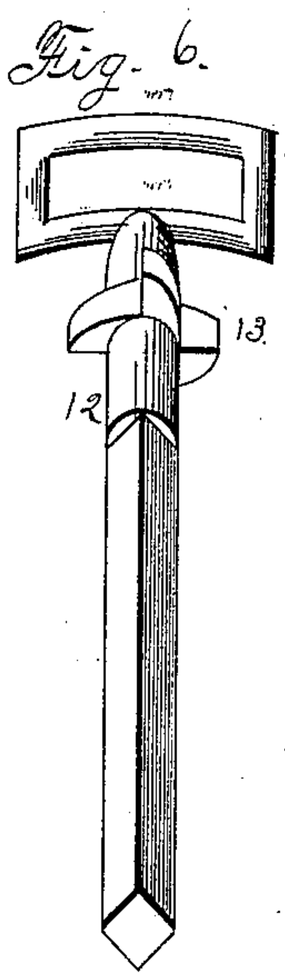


Fig. 4.

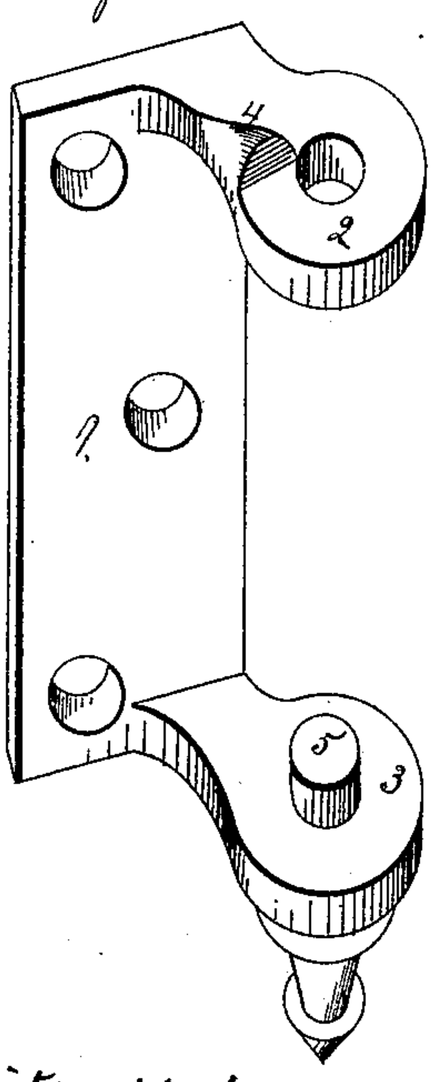


Fig. 5.

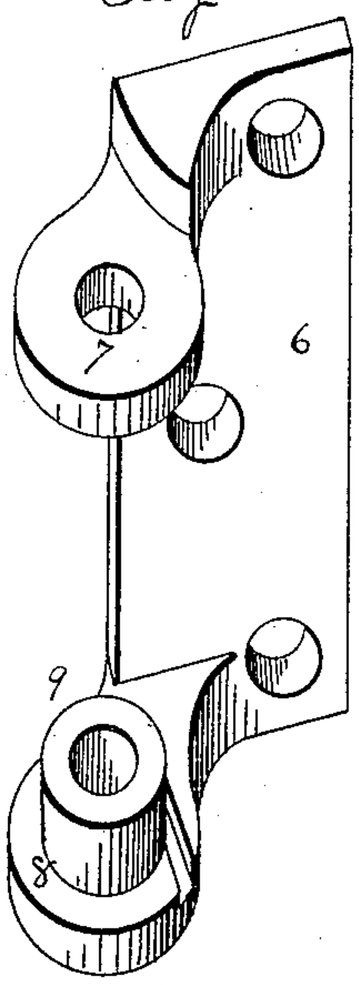


Fig. 3.

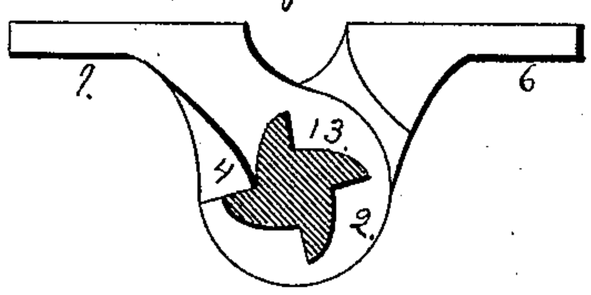
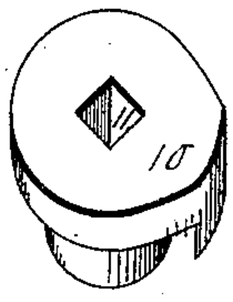


Fig 7.



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UNITED STATES PATENT OFFICE.

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SPRING-HINGE.

SPECIFICATION forming part of Letters Patent No. 390,054, dated September 25, 1888.

Application filed November 15, 1887. Serial No. 255,217. (Model.)

To all whom it may concern:

Be it known that I, WILLIAM H. BEATH, a citizen of the United States, residing in the city of Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Spring-Hinges, of which the following is a specification.

This invention relates to improvements in spring-hinges known in the trade as "single-acting spring-hinges."

The object of this invention is to produce a single-acting spring-hinge capable of ready adjustment and to simplify its construction. To this end I have designed and constructed the spring-hinge represented in the accompanying drawings, in which—

Figure 1 is a front view of the hinge when the door is closed. Fig. 2 is a vertical central section on dotted line *a* on Fig. 1. Fig. 3 is an upper end view with a portion of the pintle-key broken away, showing the ratchet and stationary pawl. Figs. 4 and 5 are isometrical representations of the plates of the hinge. Fig. 6 is an isometrical representation of the pintle-key and ratchet made in one piece. Fig. 7 is an isometrical representation of the clutch-head.

The plate 1 of my improved hinge is composed of the usual base portion, which is provided with holes for the reception of screws to fix it in place. Ears 2 and 3 project from the base portion. The upper ear, 2, is bored for the reception of a pintle-key. The upper face of this ear has a pawl, 4, rising therefrom. A pintle-stud, 5, rises from the upper face of the lower ear, 3, for a purpose to appear hereinafter. The plate 6 is substantially like plate 1, with holes for the reception of screws. Ears 7 and 8 project from the base portion. The upper ear, 7, is bored to receive a pintle-key. A boss, 9, with a central opening, rises from upper face of the ear 8. The opening is of such size as to admit the stud 5, rising from the ear 3. A clutch-head, 10, is made with a central opening, 11, of the square form shown. A pintle-key, 12, (shown in Fig. 6,) is provided with a ratchet, 13, near its upper end, cast therewith, and is of cylindrical form immediately below the ratchet, and its remainder is of a square form to enter the opening 11 in the clutch-head. A spring, 14, surrounds the pintle-key, the upper end engaging the clutch-head, and its lower end surrounds the boss 9, with its end resting against the plate 6.

To place my improved spring-hinge together, the ears of plate 6 are placed between the ears of plate 1, so that the stud 5 on ear 3 will enter the opening in the ear 8, and so that the openings in ears 2 and 7 will coincide. The clutch-head is placed on the end of the spring, and the spring, together with the clutch-head, is placed between ears 7 and 8, the lower end of the spring surrounding the boss 9 on the ear 8 and its end resting against the plate 6. The clutch-head end is so placed that the opening in it will coincide with the openings in ears 2 and 7. The pintle-key is then inserted downward through the opening in the ears 2 and 7 and the clutch-head 10. The lower end of the pintle-key will enter the opening in the boss 9, which will prevent the spring from flying out. To adjust the tension of the spring, the operator will pull the pintle-key upward until the ratchet thereon rises above the pawl 4. Then by turning the pintle-key to the left it will turn the clutch-head, and consequently the tension of the spring will be increased. When the necessary tension has been acquired, by pushing down on the pintle-key the ratchet will engage the fixed pawl and hold the spring as adjusted.

It will be seen that by this construction I produce a spring-hinge of few parts, and which embodies all the elements necessary for a complete working single-acting spring-hinge, and which is capable of adjustment.

I claim as my invention—

1. The herein-described spring-hinge, consisting, essentially, of the plates, each provided with perforated ears, a fixed pawl on the outer side of one of the ears, a clutch-head, a spring inserted between the clutch-head and one of the ears, and a pintle-key extending through the axial center of the hinge and through the clutch and spring, the said key being provided with a ratchet at a point outside of the ears to engage the fixed pawl.

2. The combination of the plates and ears of a spring-hinge, a perforated boss rising from an ear of one of the plates, a stud rising from one of the ears of the other plate, a fixed pawl on one of the plates, a clutch-head, a spring, and a pintle-key extending through the axial center of the hinge, and a ratchet formed on the pintle-key to engage the fixed pawl, substantially as set forth.

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