(Model.)

W. H. BEATH.

SPRING HINGE.

No. 381,100. Patented Apr. 17, 1888.

Fig. 1.

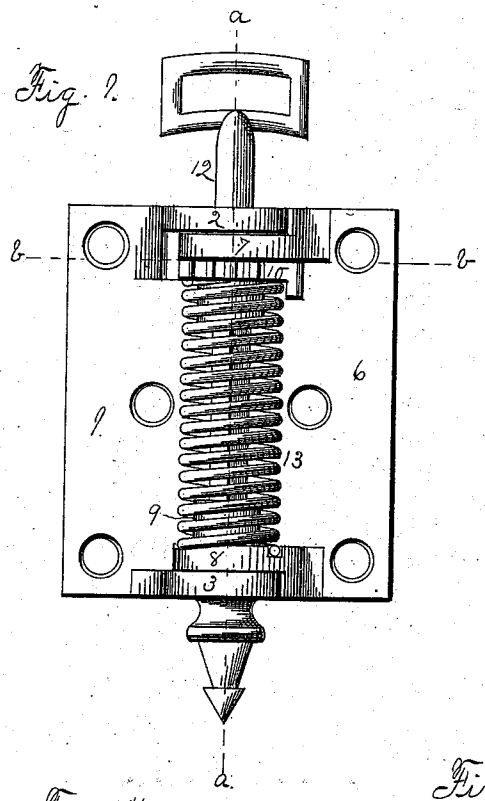


Fig. 2.

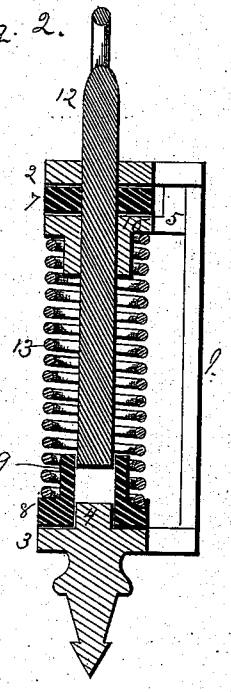


Fig. 6.

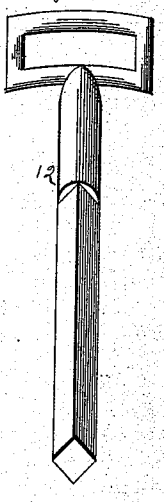


Fig. 4.

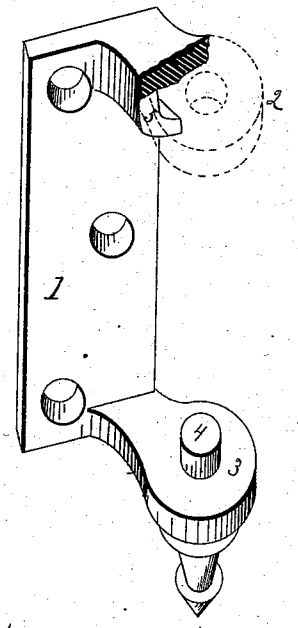


Fig. 5.

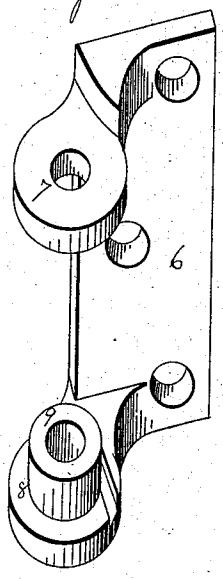


Fig. 3.

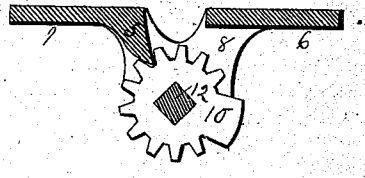
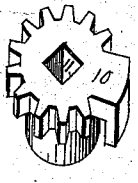


Fig. 7.



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UNITED STATES PATENT OFFICE.

WILLIAM H. BEATH, OF ROCKFORD, ILLINOIS, ASSIGNOR TO CHARLES H. C. BURLINGAME, OF SAME PLACE.

SPRING-HINGE.

SPECIFICATION forming part of Letters Patent No. 381,100, dated April 17, 1888.

Application filed November 17, 1887. Serial No. 255,431. (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.

The object of this invention is to improve this class of spring-hinges, to simplify their construction, to produce a durable and efficient hinge at a reduced cost, and at the same time embody all the advantages of the more complicated hinges.

To this end I have designed and constructed the spring-hinge represented in the accompanying drawings, in which—

Figure 1 is a front elevation of a spring-hinge embodying my improvements. Fig. 2 is a vertical central section of the same on dotted line *a* on Fig. 1. Fig. 3 is a transverse section on dotted line *b* on Fig. 1, showing the pawl engaging the teeth of the ratchet. Figs. 4 and 5 are isometrical representations of the plates of the hinge. Fig. 6 is an isometrical representation of the pintle-key. Fig. 7 is an isometrical representation of the combined clutch-head and ratchet.

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. A pintle-stud, 4, rises from the upper face of the lower ear, 3, for a purpose to appear hereinafter. Between the ears 2 and 3 is formed a pawl, 5, as shown, projecting from the base portion.

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 the upper face of the ear 8. The opening is of such size as to admit the stud 4, rising from the ear 3. A combined clutch-head and ratchet, 10, is made with a central opening, 11, preferably of a square form, (shown in Fig. 7,) and with a depending flange to engage the end of the spring. A pintle-key, 12, consists of a head and shank portion. The upper portion of the shank is rounded to fit the openings in the ears 2 and 7, while the remainder is of the square form shown in Fig. 6 to enter the opening in the combined clutch-head and ratchet. A spring, 13, surrounds the pintle-key, the upper end engaging the clutch-head and the lower end surrounding the boss 9.

To put my improved spring-hinge together, the ears of plate 6 are placed between the ears of plate 1, so that the stud 4 on ear 3 will enter the opening in the ear 8, and so that the openings in the ears 2 and 7 will coincide. The combined clutch and ratchet is placed on the end of the spring, and the spring, together with the clutch-head, is placed between the ears 7 and 8, so that the lower end of the spring will surround the boss 9 on the ear 8 and the end of the spring will rest against the plate 6, and the opening in the combined clutch-head and ratchet 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 combined clutch-head and ratchet 10. The lower end of the pintle will enter the opening in the boss 9, which will prevent the spring flying out, and also guide the pintle-key in its endwise movement. When the parts are in this position, a portion of the pintle-key projects above the ear 2, and the end of its rounded portion will come in contact with the combined clutch-head and ratchet, for a purpose to appear hereinafter.

To increase the tension of the spring to hold the door closed with more or less force, the operator will push downward on the pintle-key, which will consequently disengage the ratchet from its connection with the pawl 5. Then by turning the pintle-key to the left the tension of the spring will be increased, and by lessening the downward pressure on the pintle-key the action of the spring will force the ratchet into engagement with the pawl and hold the spring as adjusted.

It will be seen by the foregoing description and an inspection of the drawings that I have produced a single-acting spring-hinge of but few pieces. I do not employ the usual clutch-head at the bottom of the spring, as the ear 8 of plate 6 is of such form as to serve the double purpose of a clutch-head and connection of the

plates 1 and 6, and my spring-hinge, constructed as herein set forth and shown, embodies but two pieces over the ordinary loose butt—to wit, a spring and combined clutch-head and ratchet. Therefore it will be seen that I am able to make a spring-hinge embodying all the elements necessary for a complete single-acting spring-hinge at a reduced cost.

I claim as my invention—

The herein-described single-acting spring-hinge, consisting, essentially, of the two securing plates or leaves, the combined clutch-head and ratchet, the spring and the pintle-key, the securing-plate being provided with ears perforated to register with one another, the spring seated at one end directly on one of the ears and at the opposite end on the combined clutch-head and ratchet, the pintle-key extending through the axial center of the hinge and combined clutch-head and ratchet, and one of the plates being further provided with a pawl to engage the teeth on the ratchet, substantially as set forth.

WILLIAM H. BEATH.

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