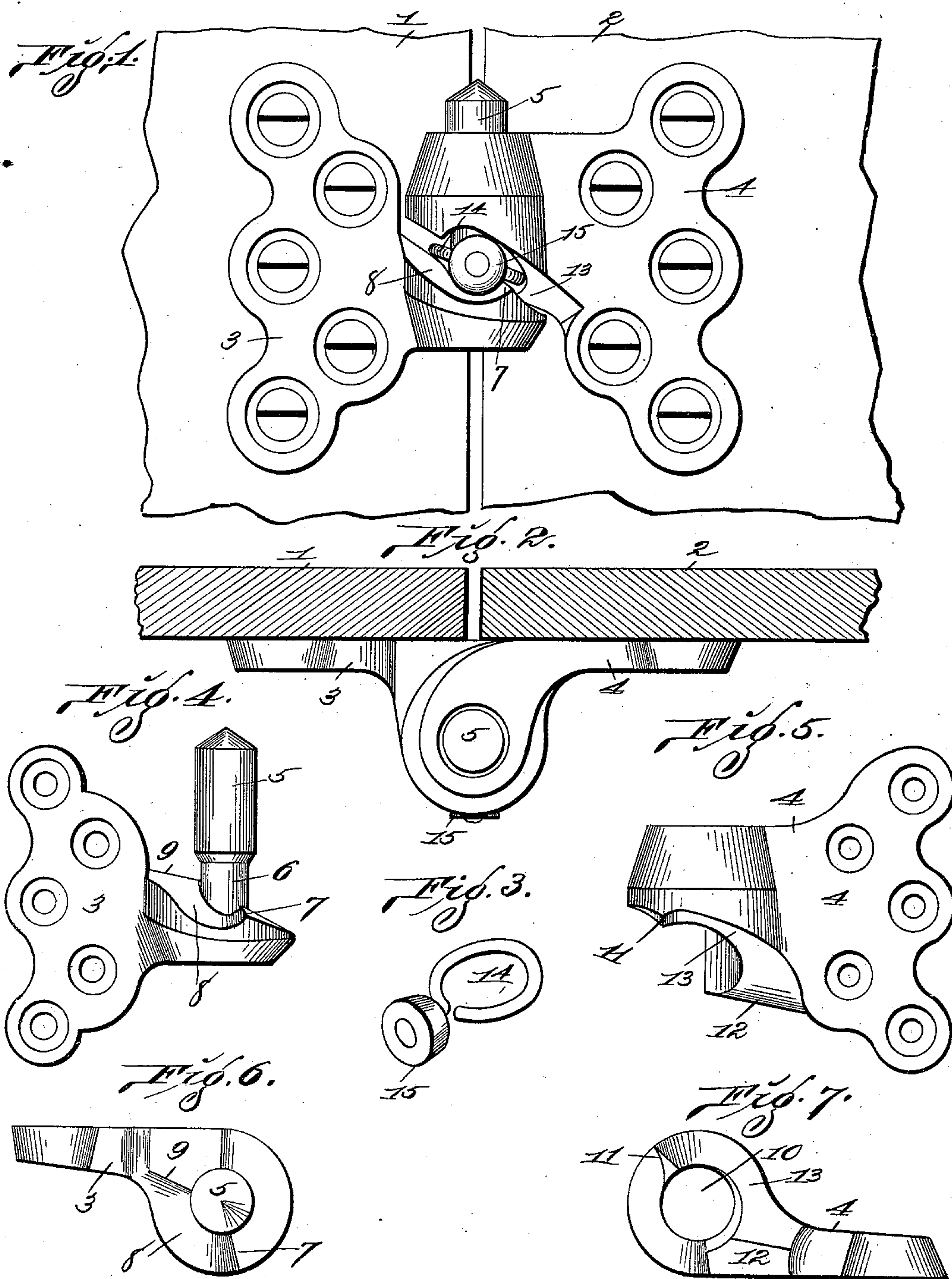


(No Model.)

W. H. DICKE & A. H. GAERTNER.
ROLLER BEARING HINGE.

No. 564,055.

Patented July 14, 1896.



M^{rs} M. Smith
 S. G. Wells

Inventors
Wm. H. Dicke and
A. H. Gaertner:-
By
Richard Richardson & Sons Attys.

UNITED STATES PATENT OFFICE.

WILLIAM H. DICKE AND AUGUST H. GAERTNER, OF ST. LOUIS, MISSOURI.

ROLLER-BEARING HINGE.

SPECIFICATION forming part of Letters Patent No. 564,055, dated July 14, 1896.

Application filed February 26, 1896. Serial No. 580,864. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM H. DICKE and AUGUST H. GAERTNER, of the city of St. Louis, State of Missouri, have invented certain new and useful Improvements in a Roller-Bearing Hinge, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

Our invention relates to an improved roller-bearing hinge; and it consists in the novel construction, combination, and arrangement of parts hereinafter described and claimed.

In the drawings, Figure 1 is a side elevation of our improved roller-bearing hinge when in position for use, the door and frame being broken away. Fig. 2 is a top plan view of the parts shown in Fig. 1. Fig. 3 is a perspective of the roller and its connection of which we make use. Fig. 4 is a side elevation of one half of the hinge, and Fig. 5 is a side elevation of the other half. Fig. 6 is a top plan view of the part shown in Fig. 4, and Fig. 7 is a top plan view of the part shown in Fig. 5.

Referring by numerals to the accompanying drawings, 1 and 2 represent the parts to be hinged together. Our hinge is designed for use where the swinging portion occupies approximately a perpendicular position, and especially on heavy gates and doors.

For convenience and uniformity of description we will designate 1 as the post and 2 as the door. The part 3 of the hinge is screwed to the post, and the part 4 is screwed to the door in the ordinary manner. In actual operation the hinge might as well be turned over and have the part 4 screwed to the post and the part 3 screwed to the door. A hinge-pin, comprising the head 5 and the neck 6, is attached to the part 3, as shown in Fig. 4. Formed on the part 3 and extending radially therefrom is a stop 7. Formed on the part 3 concentric with the axis of the said hinge-pin is an inclined surface 8, extending from the ridge 9 to said stop 7, describing approximately a quarter of a circle. The part 4 has a vertical aperture 10, designed to fit loosely on the head of the hinge-pin 5. Formed on the part 4 and extending radially from said

aperture is a stop 11, similar to the stop 7. Formed on said part 4, concentric with said aperture and extending from the ridge 12 to said stop, is an inclined surface 13, similar to the inclined surface 8.

A length of wire 14, bent into a loop, has a roller 15 rotatably mounted upon one end, said wire being headed to hold the roller in position, as shown in Fig. 3, and said loop is mounted upon the neck 6 of the hinge-pin, as shown in Fig. 1. When placed in proper position, the roller 15 operates between the inclined surfaces 8 and 13, as shown in Fig. 1.

In the practical operation of our device the weight of the door 2 rests upon the roller 15 and is held in position by the hinge-pin 5. When the door is shut, the roller 15 rests against the stop 7, and the stop 11 rests against the top of said roller. When the door is opened, the roller 15 climbs the inclined surface 8, and the inclined surface 13 climbs the roller, thus raising the door above its normal position. When the door is released, the weight will cause the roller to run down the inclined plane 8 to its normal position against the stop 7.

By the use of our hinge the door becomes self-closing. The roller-bearing in the hinge will make it easier to operate than the old devices, and the hinge is simple and durable in construction.

We claim—

In a hinge, the two mating parts 3 and 4, the hinge-pin fixed in one of said parts, said hinge-pin comprising the head 5 and the neck 6, the opposite part from the one to which the hinge-pin is fixed having a vertical aperture designed to receive said hinge-pin, the wire loop 14 surrounding the neck 6 of said hinge-pin, and the roller 15 rotatably mounted upon the outer end of said wire and between the faces of said parts 3 and 4, substantially as herein specified.

In testimony whereof we affix our signatures in presence of two witnesses.

WILLIAM H. DICKE.

AUGUST H. GAERTNER.

Witnesses:

E. E. LONGAN,

MAUD GRIFFIN.