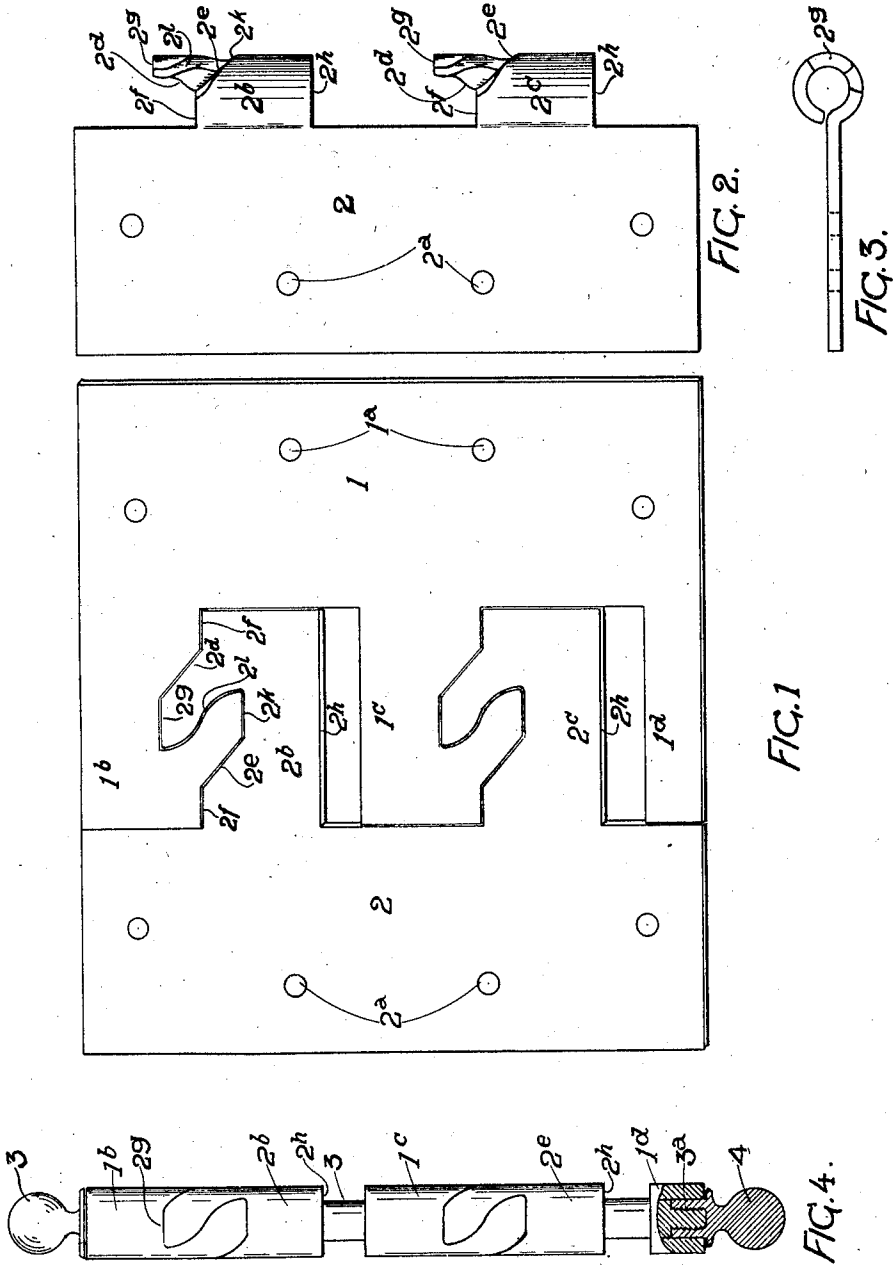


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GRAVITY HINGE.
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1,058,944.

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BENJAMIN BURNETTE AND FRANK C. AVERY, OF SAN DIEGO, CALIFORNIA.

GRAVITY-HINGE.

1,058,944.

Specification of Letters Patent.

Patented Apr. 15, 1913.

Application filed August 29, 1910. Serial No. 579,589.

To all whom it may concern:

Be it known that we, BENJAMIN BURNETTE and FRANK C. AVERY, citizens of the United States, residing at San Diego, in the county of San Diego and State of California, have invented a new and useful Improved Gravity-Hinge, of which the following is a specification.

The invention relates to hinges in which there are used cam and flat surface members in engagement with other like members for swinging and closing doors, gates, etc., and the objects of the invention are—first, to provide such a hinge of simple and economical construction, with large bearing surfaces for the knuckles of said hinges, second, to provide such hinges with cam, inclined and flat surfaces of such construction, that when the door is fully ajar, it will remain open,—third, to provide such hinges that they may be made of plate stock so that there is a minimum of waste in the cutting of the material, and fourth, to provide a novel hinge pintle which may be secured in the knuckles of said hinge.

With these and other objects in view as will appear hereinafter, our invention consists of certain novel features of construction, combination and arrangement of parts as hereinafter described, and more particularly set forth in the appended claims, reference being had to the accompanying drawings, in which:—

Figure 1 is a plan view slightly in perspective of the blank, showing the shearing lines therein, Fig. 2 is a side elevational view of one of the leaves, after being formed and ready for use, Fig. 3 is a top view thereof, and Fig. 4 is an elevational view of the hinge closed and showing the lower portion in section.

Similar characters of reference refer to similar parts throughout the several views.

The hinge is composed of four pieces, the right leaf 1, the left leaf 2, the pintle 3 and pintle nut 4, and it is constructed in the same manner as an ordinary knuckle hinge except as to the knuckle surfaces and the pintle which will be described hereinafter. It may be made with any number of knuckles but in this case only five are shown, the leaf 2 is provided with screw holes, 2^a, for fastening it to the door, and it is also provided with two knuckles 2^b and 2^c. The lower edges 2^b of said knuckles

are flat, but the top edges are provided with a plurality of cam surfaces 2^d, 2^e and 2^f, and are also provided with a plurality of flat surfaces 2^g, 2^h, and 2^k. The surface 2ⁱ is an ogee curve which provides easy bearing surfaces. Leaf 1 is also provided with screw holes 1^a with three knuckles 1^b, 1^c, and 1^d. The upper surfaces of knuckles 1^b and 1^c and both surfaces of knuckles 1^d are flat, the lower surfaces of knuckles 1^b and 1^c are shaped so as to be adapted to fit the upper surfaces of knuckles 2^b and 2^c when the door is closed, as shown best in Fig. 4, and to ride upon the cam and inclined surfaces 2^d, 2^e and 2^f on the opening and closing of said door. The pintle 3 is an ordinary one except that at its lower end it is provided with a thread 3^a, adapted to fit a thread in the pintle nut 4. The upper portion of said pintle nut 4 being the same size as the pintle and adapted to fit into the inside of the knuckle 1^d and to be screwed tight against the upper and lower knuckles on leaf 1.

It will be noted here that each knuckle on its bearing surface is provided with a plurality of cam and incline surfaces thereby providing greater bearing surfaces than otherwise would be possible, also that the curves upon which these bearing surfaces are cut is an ordinary ogee curve, which allows one member to fit neatly into the other and that both of the shearing surfaces of leaves 1 and 2 may be sheared by one stroke of the press.

We are aware that prior to our invention, cam and inclined surface hinges have been made. We therefore, do not claim such a hinge broadly, but claim:—

1. A hinge, comprising a leaf provided with a plurality of knuckles upon one of its edges, spaced apart, the upper surface of each knuckle being provided with an extension, to provide large bearing surface, and the surfaces provided with a plurality of cam and flat faces, and a second leaf provided with a plurality of knuckles upon one of its edges spaced apart, the lower surface of each knuckle being provided with an extension, to provide large bearing surface, and the surfaces provided with a plurality of cam, and flat surfaces, corresponding to the cam and flat surfaces upon the knuckles of the second leaf, all substantially as set forth.

2. A hinge, comprising a jamb leaf pro-

vided with a plurality of knuckles upon one of its edges, spaced apart, the upper surface of each knuckle being formed with a plurality of upwardly inclined bearing
5 faces, and a plurality of horizontal bearing faces, and a door leaf provided with a plurality of knuckles upon one of its edges, spaced apart, the under surface of each knuckle being formed with a plurality of
10 inclined bearing faces and a plurality of horizontal bearing faces corresponding to

the faces upon the knuckles of said jamb leaf, all substantially as set forth.

In witness whereof, we hereunto subscribe our names in the presence of two sub- 15 scribing witnesses.

BENJAMIN BURNETTE.
FRANK C. AVERY.

Witnesses:

ELMER E. RODABAUGH,
ABRAM B. BOWMAN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
