Jan. 1, 1924 1,479,352

W. S. WITTEN

HINGE

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Fig. 2.

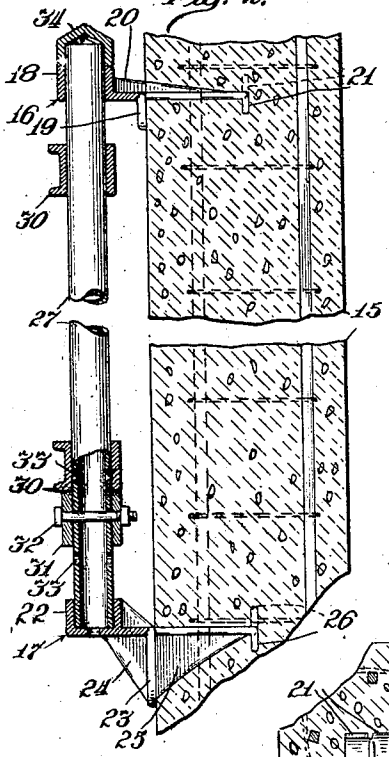


Fig. 1.

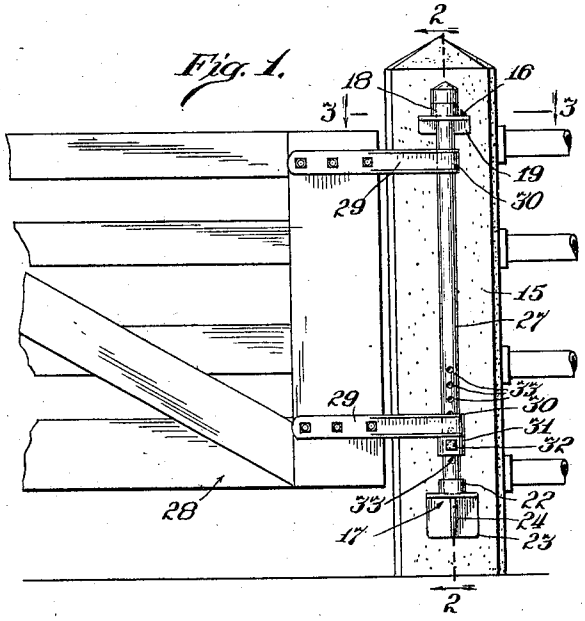


Fig. 3.

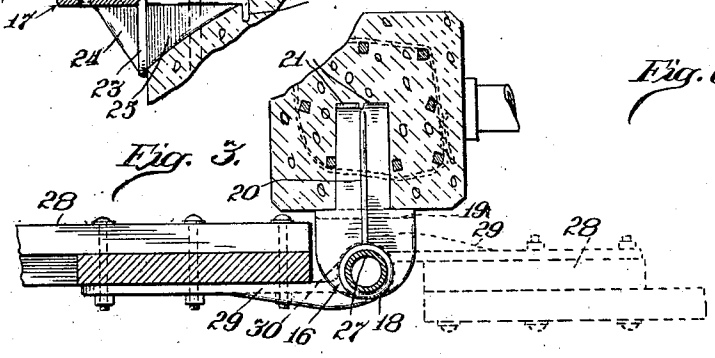


Fig. 6.

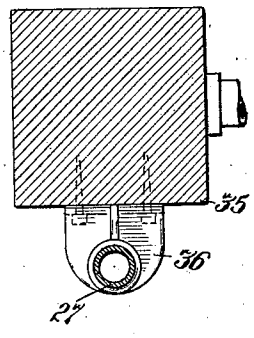


Fig. 4.

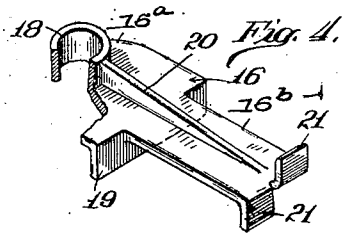
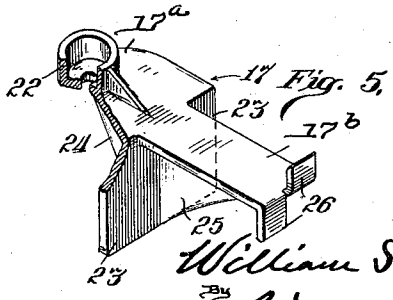


Fig. 5.



Witness
Fulton Lenoir

Inventor
William S. Witten
By Adams & Jackson
Attorneys

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W. S. WITTEN

HINGE

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Fig. 7.

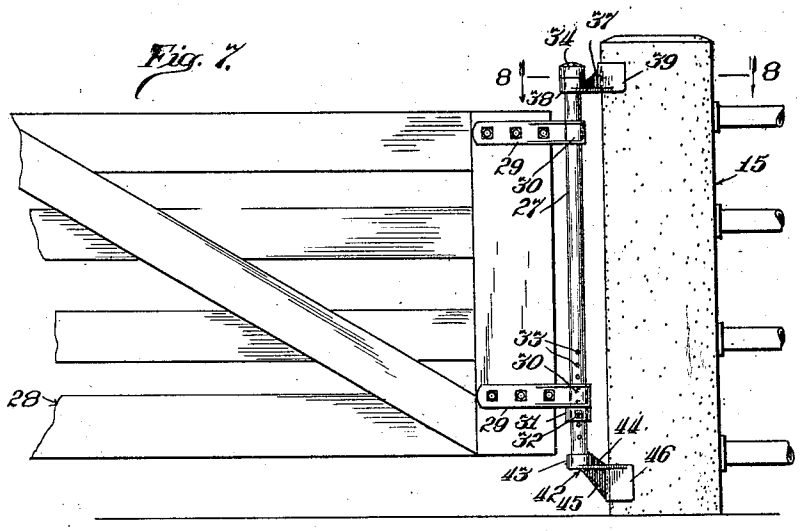


Fig. 8.

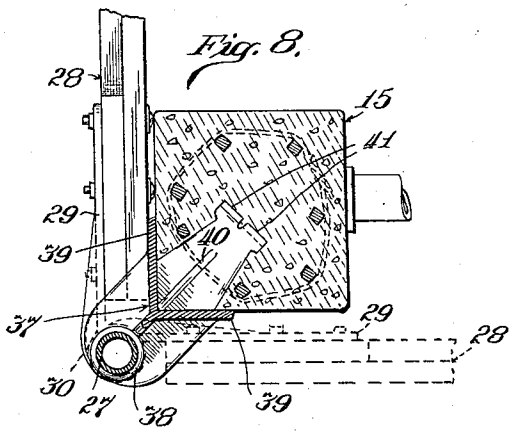


Fig. 11.

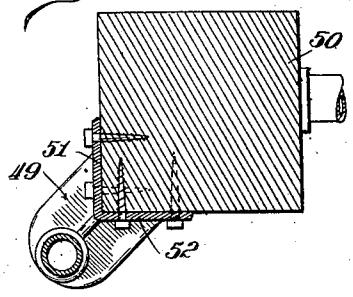


Fig. 9.

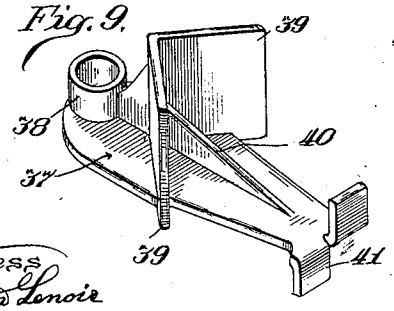
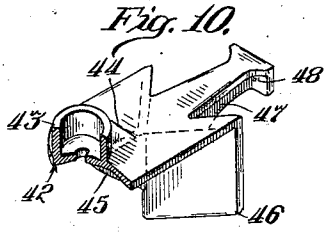


Fig. 10.



Witness
Milton Lenoir

Inventor
William S. Witten.
By Adams & Jackson.
Attorneys.

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UNITED STATES PATENT OFFICE.

WILLIAM S. WITTEN, OF CHICAGO, ILLINOIS.

HINGE.

Application filed December 26, 1919. Serial No. 347,361.

To all whom it may concern:

Be it known that I, WILLIAM S. WITTEN, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Hinges, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to hinges and particularly to hinges for mounting gates in position so as to be capable of swinging in either direction for opening the gate. It is the principal object of my invention to provide a simple construction of hinge which shall have a wide applicability by reason of being adjustable to fit varying conditions, and which shall have very great strength and firmness so as to resist the wear and tear to which gates are subjected in use. My improved structure is especially designed for meeting the requirements of a complicated system of yards and gates such as is characteristic of stockyards at loading and unloading points on railroads and about packing plants. A further object of my invention is to improve devices of this type in sundry details hereinafter pointed out. The preferred means by which I have accomplished my objects are illustrated in the drawings. What I desire to cover by this application is set forth in the claims.

In the drawings,—

Fig. 1 is a view of a gate, partly broken away, mounted in position upon a post by the use of my improved hinging means;

Fig. 2 is an enlarged detail, being a vertical cross-section taken on line 2—2 of Fig. 1, but partly broken away;

Fig. 3 is an enlarged detail, being a horizontal cross-section taken on line 3—3 of Fig. 1;

Fig. 4 is a perspective view of the upper bracket by which attachment to the gate post is effected, being partly broken away;

Fig. 5 is a detailed view of the lower bracket;

Fig. 6 is a view illustrating a modified form of post bracket;

Fig. 7 is a view similar to Fig. 1, but showing a modified form of construction;

Fig. 8 is an enlarged detail, being a horizontal cross-section taken on line 8—8 of Fig. 7;

Fig. 9 is a detailed view of the upper post bracket of the construction shown in Fig. 7;

Fig. 10 is a perspective view of the lower post bracket of Fig. 7;

Fig. 11 is a view showing a modified form of post bracket.

Referring now to Figs. 1 to 5,—15 indicates a concrete gate post of any approved type, having brackets 16 and 17 embedded therein. As is clearly shown in Fig. 4, the upper post bracket 16 comprises an outwardly extending arm 16^a having an eye or socket 18 at its outer end, an intermediately disposed face plate 19 which is adapted to abut against the post 15, an inwardly extending arm 16^b adapted to be embedded in the gate post, a web 20 which extends along the arm 16^a from the socket 18 to and along the arm 16^b, and assists in holding the bracket against lateral movement within the post 15, and oppositely projecting toes 21 carried by the arm 16^b which prevent withdrawal of the bracket from the post. The bracket 17 is similar in general to the bracket 16, and comprises an outwardly extending arm 17^a provided with a socket 22 which is closed at its lower end except for a small opening which is adapted to permit water to escape, an intermediately disposed face plate 23 of considerable size for taking the pressure of the gate upon the post, an inwardly extending arm 17^b adapted to be embedded in the gate post, vertical webs 24 and 25 at opposite sides of the face plate 23 and extending along the arms 17^a 17^b respectively for strengthening the bracket and for protecting it against lateral movement in the post, and toes 26 on the arm 17^b similar to the toes 21. As that portion of the web 20 carried by the arm 16^b, and the web 25 carried by the arm 17^b are embedded in the gate post the brackets are firmly held against lateral movement, and are also strengthened. The vertical web connected with the wall of the socket also very materially strengthens the bracket at that point.

Extending downward through the eye or socket 18 of the bracket 16 and having its lower end secured in the socket 22 of the lower bracket is a rod or pipe 27 which acts as the spindle about which the gate is adapted to turn. In Fig. 1 a gate 28 of any approved type is mounted upon the rod or pipe 27 by means of hinge plates 29 which are secured to the gate in the construction shown by means of suitable bolts, being provided at their outer ends with eyes or sockets

30 having a working fit upon the rod 27. The lower one of the hinge plates 29 is supported against downward movement upon the rod 27 by means of a collar 31 which is held adjustably in position upon the rod 27 by means of a bolt 32 passing through any one of a plurality of holes 33 through the rod 27. For closing the upper end of the rod 27 which is shown in the form of a pipe, a cap 34 is provided.

In the construction shown in Fig. 6 a wooden post 35 is employed, and a modified form of bracket 36 is employed therewith in which lag screws are used for connecting the bracket to the post in lieu of having the bracket extend into the post as is above described.

Referring now to Figs. 7 to 10, which show modified forms of post brackets, the same reference characters have been used to indicate similar parts. In this construction the post brackets are secured upon a corner of the post instead of upon one side face, as is shown in the construction first described. The upper corner bracket which is indicated by the numeral 37 (see Fig. 9) is provided with an eye or socket 38, with two face plates 39 adapted to bear against adjacent faces of the post, with a web 40, corresponding to the web 20 of the other construction, and with toes 41 corresponding to the toes 21. The lower corner bracket, which is indicated by the numeral 42 (see Fig. 10) is provided with a socket 43, webs 44 and 45 by which the socket portion of the bracket is braced with respect to the face-plates 46, with a web 47 corresponding to the web 25 of the bracket 17, and with a head 48 by which the bracket is held against withdrawal from the post.

In Fig. 11 a form of bracket 49 is illustrated, adapted to be used upon a wooden post 50, the plates 51 and 52 corresponding to the face-plates 39 or 46 of the structures shown in Figs. 9 and 10, being provided with suitable holes for lag screws for attachment to the post in lieu of the means of attachment employed where a concrete post is used, as above described.

By the use of my improved form of hinging mechanism a gate is adapted to be secured in position at the desired vertical height without regard to the precise position of the brackets by which connection is effected with the gate post. At any time subsequent to the installation of the gate the height of the gate above the ground can very readily be changed within reasonable limits as may be desired. By the use of the constructions shown in Figs. 7 to 11, a gate can be mounted so as to be free to swing through an arc of 270° as shown by the two positions of the gate in Fig. 8. In such systems of pens and run-ways as those employed in stockyards this feature is of very considerable importance.

What I claim as my invention and desire to secure by Letters Patent, is—

1. A hinge bracket comprising an arm adapted to be embedded in a gate post, a vertical face plate at the outer end portion of said arm and adapted to bear against the gate post, a vertical web extending along said arm from said face plate in position to be embedded in the gate post, and means extending outward beyond said face plate for engaging a cooperating hinge member.

2. A hinge bracket comprising a horizontally-disposed member, a face plate at the inner end portion of and at right angles to said member, an arm extending inwardly from said face plate and adapted to be imbedded in a gate post, a socket at the outer end portion of said member, and an integral vertical web between said member and the wall of said socket.

3. A hinge mechanism comprising a rod, a plurality of hinge-plates adapted to be secured to a gate and revolubly mounted on said rod, and a pair of brackets imbedded in a concrete gate post and extending diagonally outward from one corner of the post, each of said brackets having a turned portion at its inner end for preventing its withdrawal from the post, having a horizontally positioned web for holding the bracket against lateral movement with respect to the post, and having two face-plates adapted to rest against adjacent faces of said post.

WILLIAM S. WITTEN.