No. 684,721. Patented Oct. 15, 1901.

# P. ROOTS.

## HINGE.

(Application filed Jan. 28, 1901.)

(No Model.)

Fig. 1.

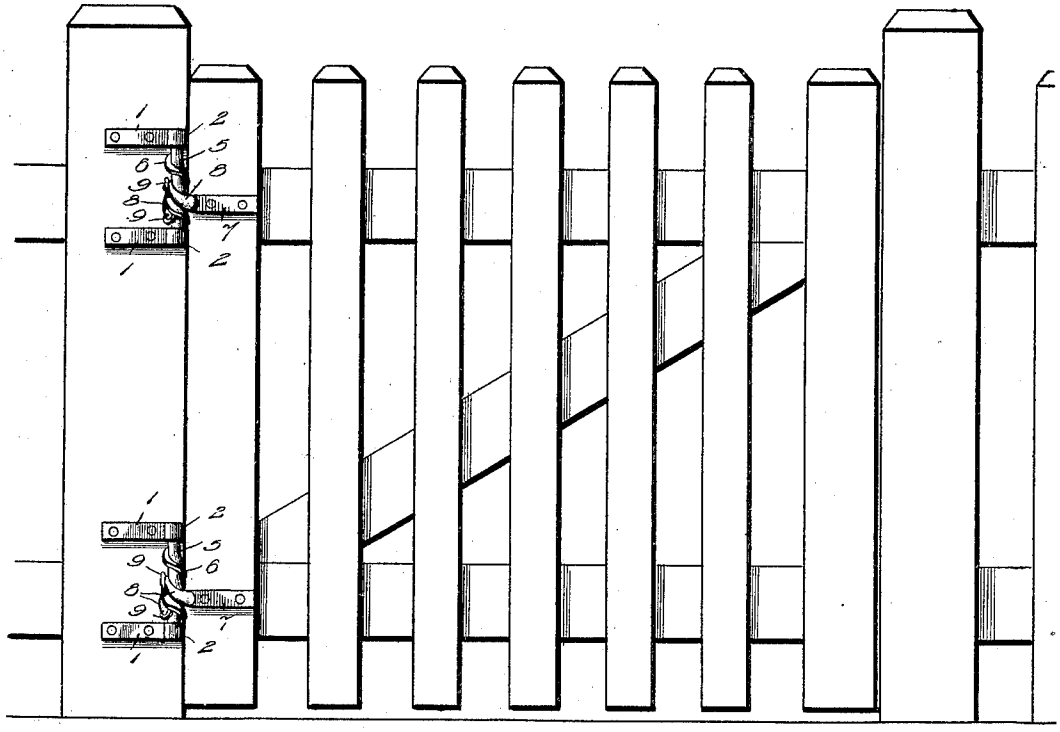


Fig. 2.

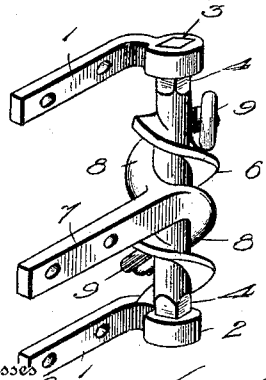


Fig. 3.

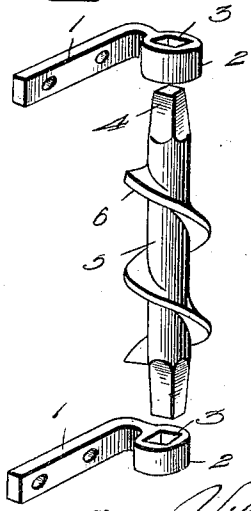
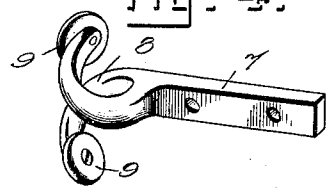


Fig. 4.



Witnesses
Jno. J. Forth.
Herbert D. Lawson.

Inventor
Preston Roots,
By Victor J. Evans Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

PRESTON ROOTS, OF KERENS, TEXAS.

## HINGE.

SPECIFICATION forming part of Letters Patent No. 684,721, dated October 15, 1901.

Application filed January 28, 1901. Serial No. 45,093. (No model.)

*To all whom it may concern:*

Be it known that I, PRESTON ROOTS, a citizen of the United States, residing at Kerens, in the county of Navarro and State of Texas, have invented new and useful Improvements in Hinges, of which the following is a specification.

This invention relates to new and useful improvements in gate-hinges; and its primary object is to provide a device which is adapted to retain the gate normally in closed position.

A further object is to so construct the device that the same will be easy to operate and may be readily attached to a gate and its supporting-post.

With these and other objects in view the invention consists in providing a hinge one leaf of which is constructed with a spiral auger-shaped pintle which is inclosed by oppositely-arranged curved arms extending from one of the leaves of the hinge. Rollers are journaled to these arms and are adapted to bear upon opposite sides of the spiral, which forms a track or guide and is adapted when the gate or other structure to which the leaf of the arms is secured is swung open to raise the same or else to return it by gravity to its closed position.

The invention also consists in the novel construction and combination of parts hereinafter more fully described and claimed, and illustrated in the accompanying drawings, showing the preferred form of my invention, and in which—

Figure 1 is an elevation of a gate having my improved hinges secured thereto. Fig. 2 is a detail view of the hinge detached and showing the arms in raised position upon the pintle. Fig. 3 is a detail view of the pintle and its leaf, and Fig. 4 is a similar view of the second leaf of the hinge.

Referring to the figures by numerals of reference, 1 1 are parallel straps having ears 2, each of which is provided with a rectangular transversely-extending pintle-eye 3. These eyes are adapted to receive the squared ends 4 of a pintle 5, having a spiral rib 6 extending therearound.

A strap 7 forms the other leaf of the hinge, and extending from one end thereof are oppositely-curved arms 8, to the ends of which are journaled rollers 9. These arms are adapted to inclose the pintle and lie at opposite sides of the spiral 6, and the rollers thereof bear upon said spiral and permit the arms to readily travel thereon.

The straps 1 are secured to the door-casing or to the fence-post, while the strap 7 is adapted to be secured to the door or gate. The pintle is inserted between the arms by turning the same thereinto before it is placed in position within the ears 2. It will be understood that when the door or gate is swung open the rollers 9 will travel upward upon the spiral 6 and cause the gate to move upward as well as outward. As soon as the gate is released the weight thereof will cause the rollers to travel downward upon the spiral, thereby swinging the gate to its closed position.

It will be seen that the device is extremely simple in construction, the same being formed of but six parts, including the rollers, and the same may be readily attached to a door or post. The parts are readily detachable from each other and can be conveniently packed in a small space.

In the foregoing description I have shown the preferred form of my invention; but I do not limit myself thereto, as I am aware that modifications may be made therein without departing from the spirit or sacrificing any of the advantages thereof, and I therefore reserve the right to make all such changes as fairly fall within the scope of my invention.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A hinge comprising straps, each formed with a pintle-eye, and adapted to be secured to a gate-post, a pintle having a spiral rib, and adapted to be detachably secured to said straps, a strap having curved arms to embrace the pintle and engage said rib at opposite sides of the spiral rib, and adapted to be secured to a gate substantially as shown and described.

2. The combination with supporting-straps formed with angular pintle-eyes, of a pintle

formed with a spiral rib and having ends fitting said eyes; a strap adapted to be secured to a gate and formed with curved arms adapted to embrace said pintle, and rollers carried by said arms and adapted to bear upon said spiral rib on opposite sides thereof, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

PRESTON ROOTS.

Witnesses:
W. J. CARROLL,
S. H. HORNBEAK.