(No Model.)

2 Sheets—Sheet 1.

J. S. BERRY.
GATE HINGE.

No. 587,173.

Patented July 27, 1897.

Fig. 1.

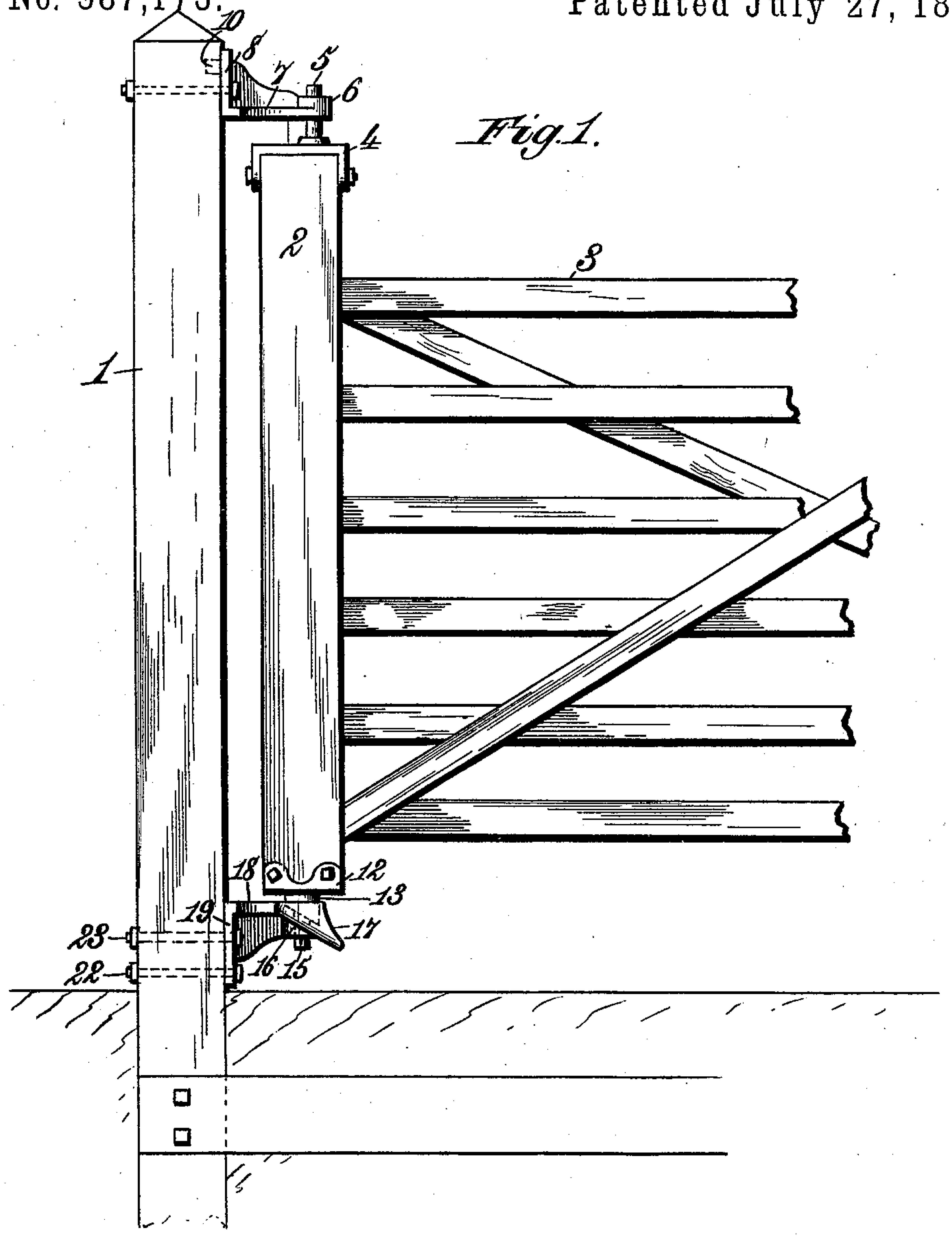


Fig. 2.

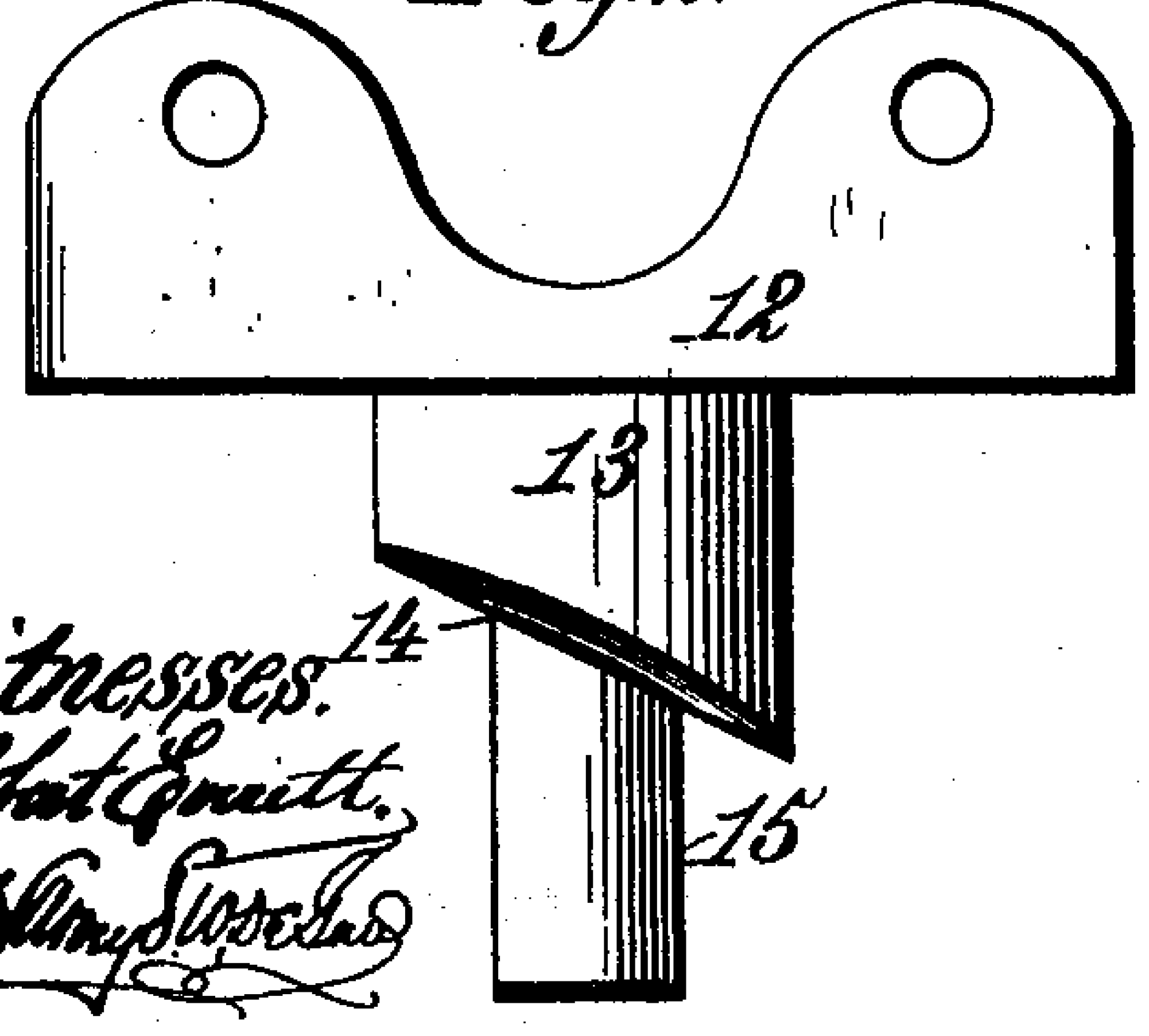
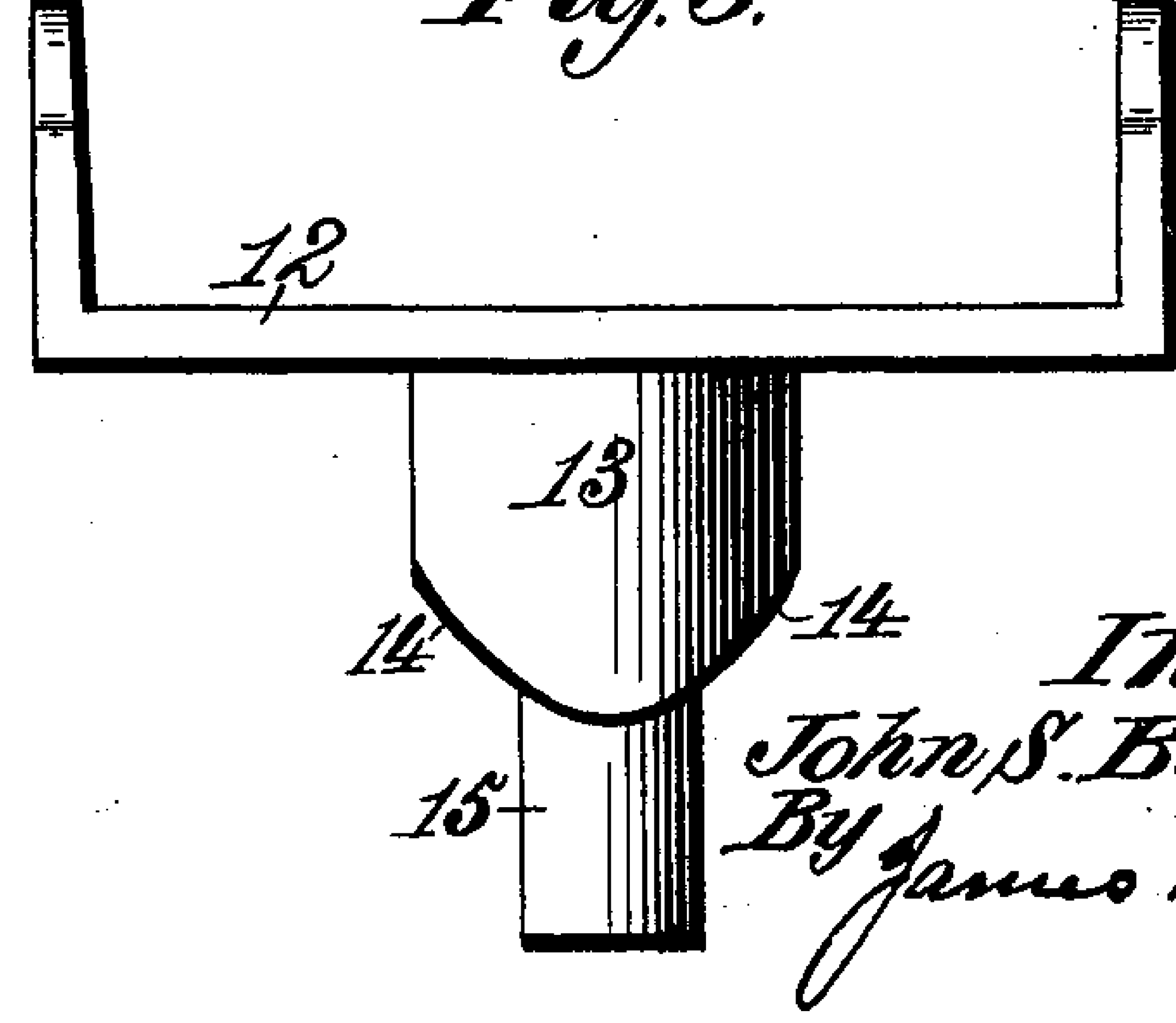


Fig. 3.



Witnesses.
Robert Everett.
Henry S. Wise [illegible]

Inventor:
John S. Berry.
By James L. Norris.
Atty.

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

(No Model.)

2 Sheets—Sheet 2.

J. S. BERRY.

GATE HINGE.

No. 587,173.

Patented July 27, 1897.

Fig. 4.

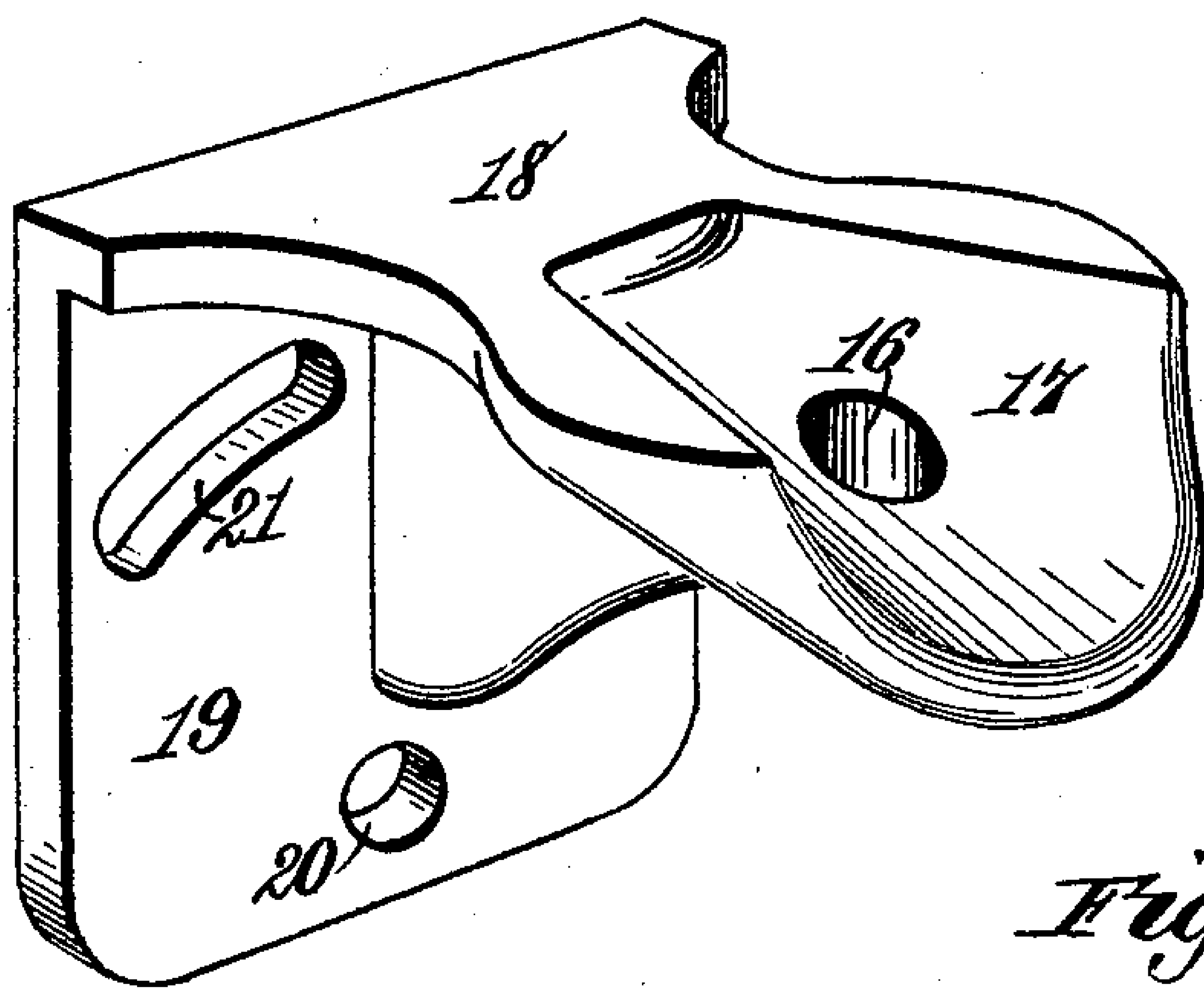


Fig. 5.

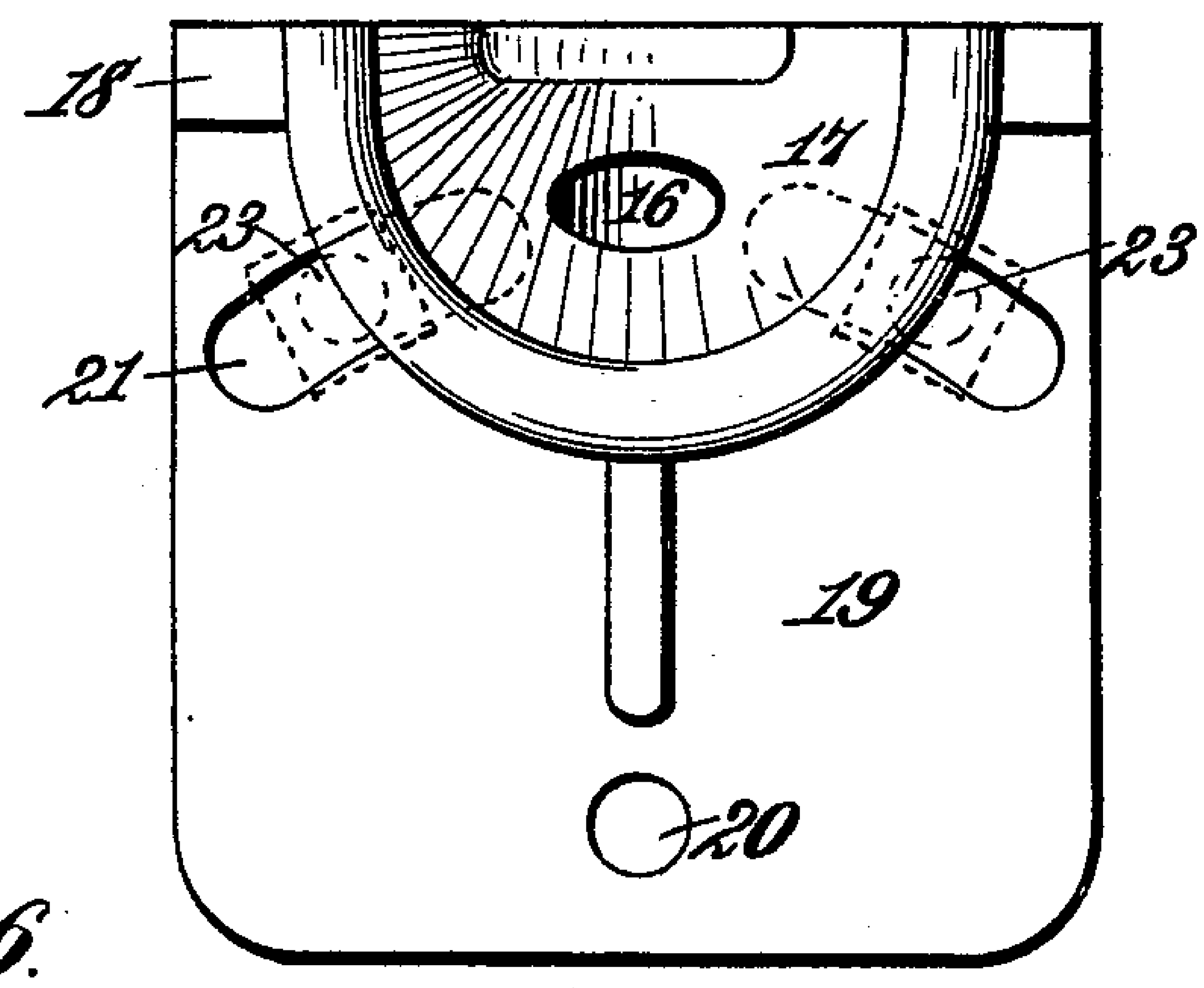


Fig. 6.

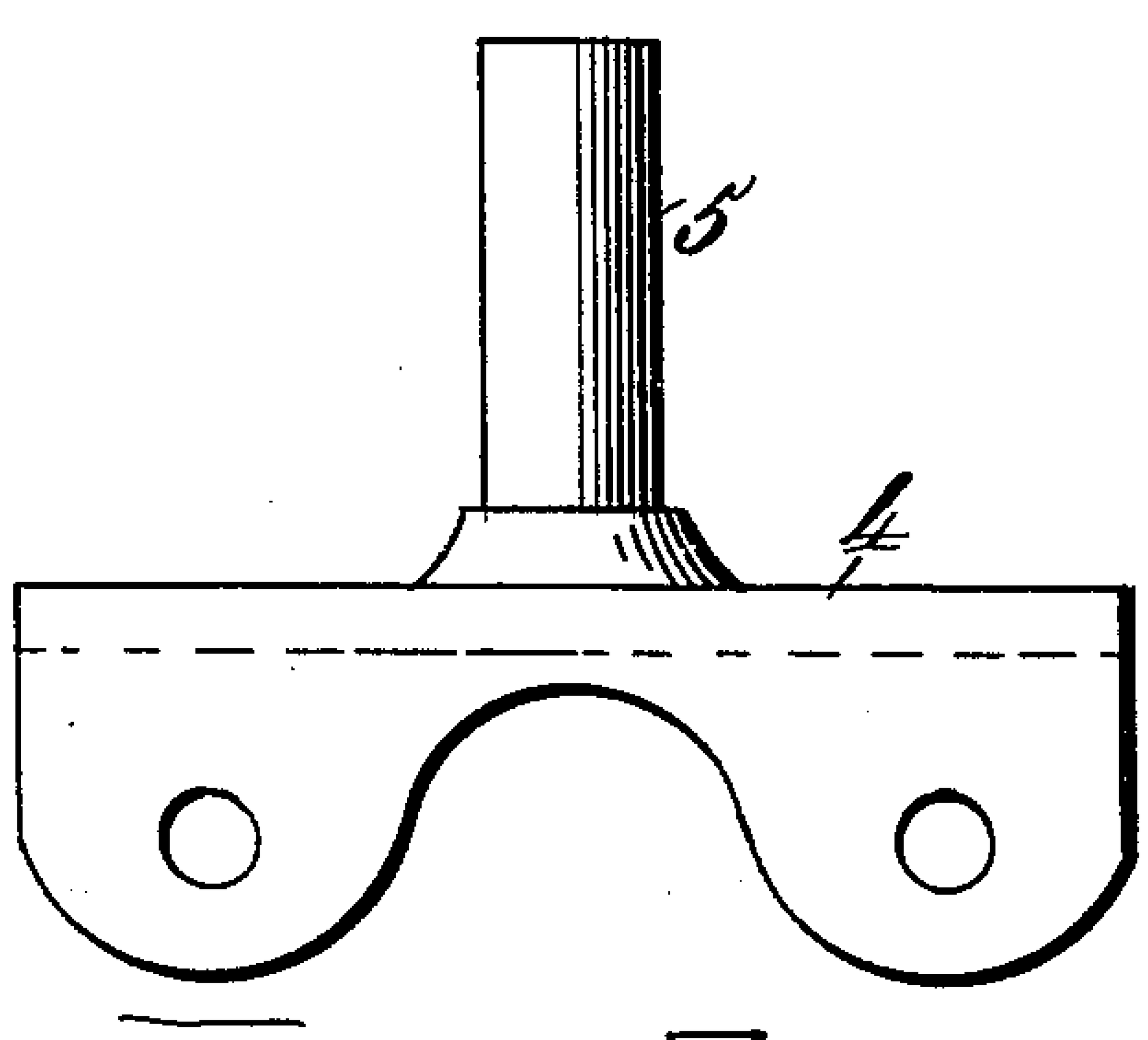


Fig. 7.

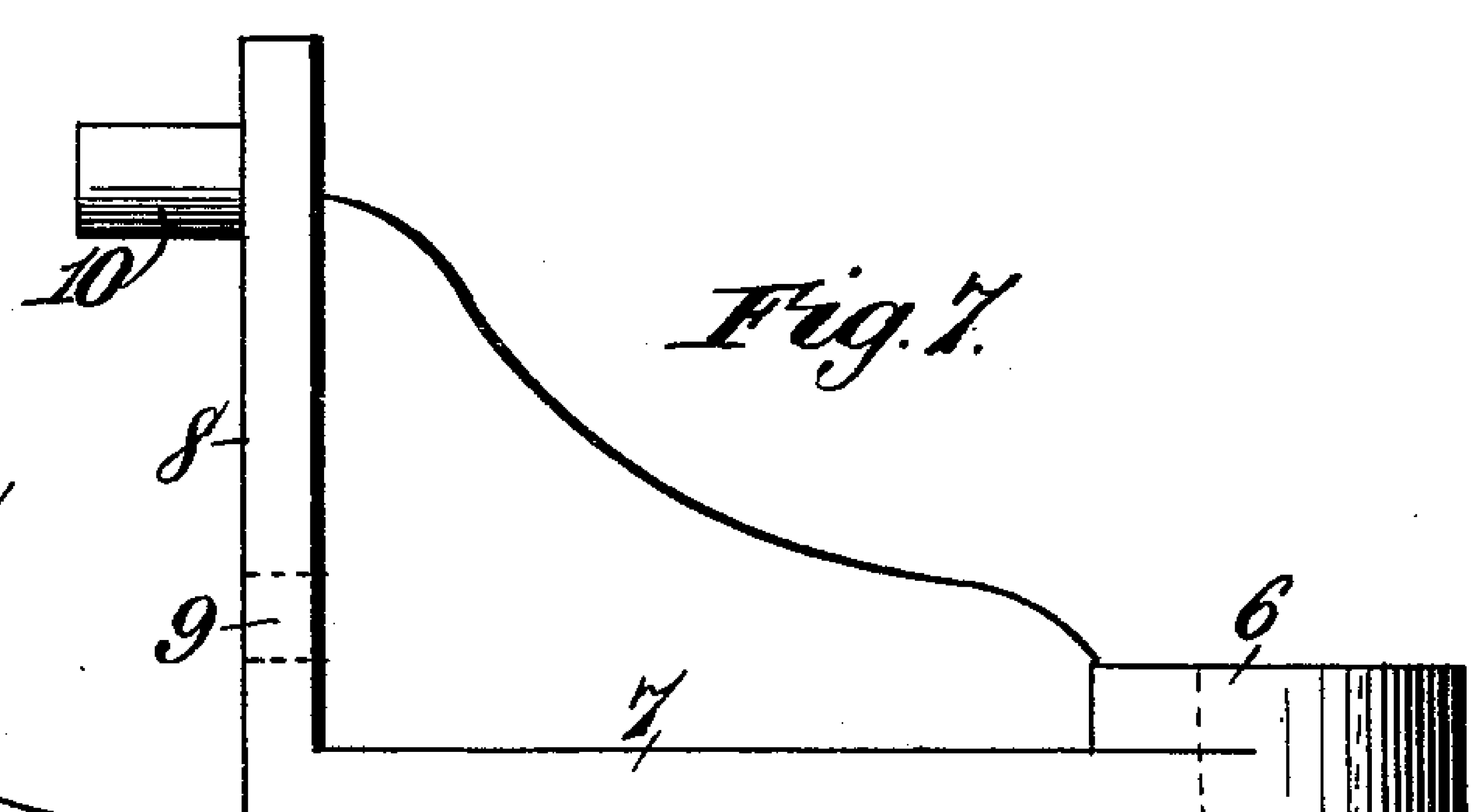
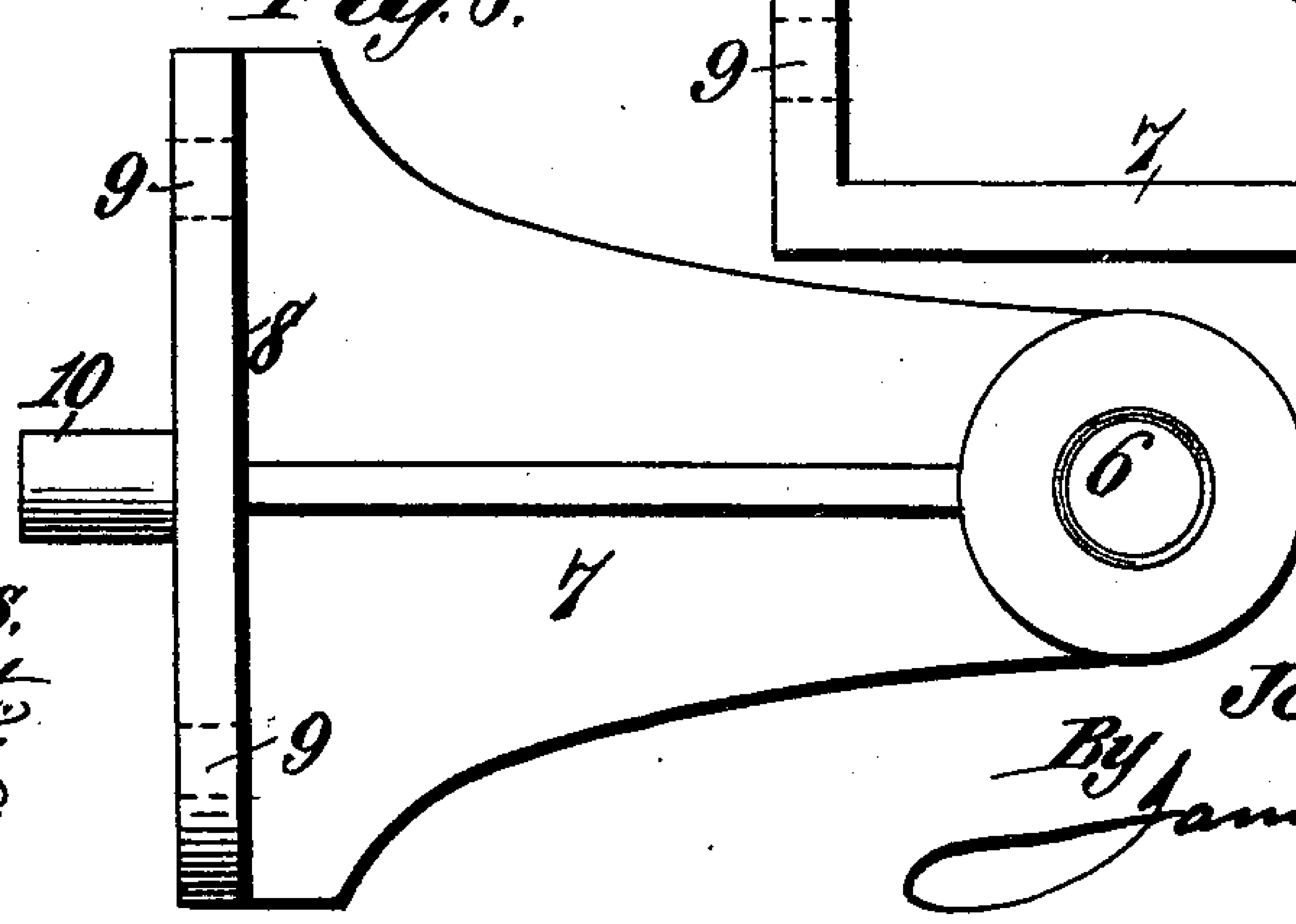


Fig. 8.



Witnesses.
Robert Everett,
[illegible]

Inventor:
John S. Berry.
By James L. Norris.
Atty.

UNITED STATES PATENT OFFICE.

JOHN S. BERRY, OF TYLER, TEXAS, ASSIGNOR OF TWO-THIRDS TO WILLIAM QUINN AND MORRIS DOWLER, OF SAME PLACE.

GATE-HINGE.

SPECIFICATION forming part of Letters Patent No. 587,173, dated July 27, 1897.

Application filed April 1, 1897. Serial No. 630,277. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. BERRY, a citizen of the United States, residing at Tyler, in the county of Smith and State of Texas, have invented new and useful Improvements in Gravity-Hinges for Gates, &c., of which the following is a specification.

This invention relates to hinges designed for farm-gates and other analogous purposes.

The chief object of my invention is to provide a new and improved gravity-hinge for causing a gate to automatically close, and which is susceptible of such adjustment that if the gate-post and the latch-post, either or both, become disarranged as regards their perpendicular position, or if they are not exactly coincident with relation to each other, the gate can be centered relatively to the latch-post, or rather the hinged end of the gate can be set precisely perpendicular or be shifted laterally to any required angle of inclination for the purpose of causing the gate to properly close and engage the latch on the latch-post.

The object of my invention is accomplished in the manner and by the means hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a broken elevation showing a portion of a gate and a gate-post with my improved gravity-hinge applied thereto. Figs. 2 and 3 are detail views of the upper section of the gravity-hinge. Fig. 4 is a detail perspective view of the lower section of the hinge. Fig. 5 is a front elevation of the lower hinge-section. Fig. 6 is a detail view of the bracket which carries the pintle at the upper end of the gate-beam, and Figs. 7 and 8 are detail views of the bracket secured to the gate-post and which constitutes a bearing for the pintle at the upper end of the gate-beam.

In order to enable those skilled in the art to make and use my invention, I will now describe the same in detail, referring to the drawings, wherein—

The numeral 1 indicates the gate-post, 2 the gate-beam, and 3 a part of the frame of the gate. The latch-post is not illustrated in the drawings because it may be of any ordinary construction and be provided with a latch of any desired type. I prefer to provide a latch-post having a latch constructed in accordance with Letters Patent No. 574,518, issued to me January 5, 1897, but do not confine myself to any particular construction of latch.

The upper end of the gate-beam 2 is provided with a bracket 4, having a vertical pintle 5 mounted thereupon and constructed to enter and be supported by an eye 6, provided at the outer end of a bracket 7, which is secured to the upper end of the gate-post. The bracket 7 extends from a vertical plate 8, having bolt-holes 9 and a projecting stud 10, for the purpose of rigidly securing the bracket to the gate-post. The devices for supporting the upper end of the gate-beam may, however, be of any construction suitable for the purpose in hand, but the particular devices shown and described give good results.

The improved gravity-hinge is composed of an upper section and a lower section. The upper section is in the form of a flanged bracket 12, adapted to embrace and be bolted to the lower end of the gate-beam 2. The bracket 12 is provided with a pendent cylindrical projection 13, having its lower portion fashioned into two reverse inclines 14. A pintle 15 forms a part of and depends from the lower portion of the projection 13, and is designed to enter and more or less accurately fit a pintle-hole 16, formed centrally in a concaved portion 17 of the lower hinge-section. This lower section comprises a bracket 18, extending horizontally from a vertical plate 19, which is provided at the center of its lower portion with a bolt-hole 20 and near its top portion with two curved or segmental slots 21, which are struck from the center of the bolt-hole 20. The bracket 18 projects horizontally from the vertical plate 19, and the concavity 17 is formed in the outer end portion of the bracket. The concavity 17 is of such construction that the reversely-inclined lower end portion of the projection 13 will more or less accurately fit the concavity, and when the gate is opened in either direction the upper hinge-section has an eccentric action and one of the inclines 14 will ride up the inclined side of the concavity, so that when the gate is released it will automatically close by gravity. The pintle 15 at the

lower end of the gate-beam and the pintle 5 at the upper end thereof are so relatively arranged that a perpendicular line passing through the center of the pintle 15 will lie in rear of the pintle 5, and consequently when the gate is opened the eccentric action of the upper hinge-section causes the gate to stand at an angle of inclination or out of a perpendicular plane, so that it will promptly close when released.

A bolt 22 passes through the bolt-hole 20 into or through the gate-post, and this bolt constitutes a fixed radial center for the lateral adjustment of the lower hinge-section in either direction. The upper portion of the vertical plate 19 of the lower hinge-section is adjustably secured to the gate-post through the medium of two clamping-bolts 23, which pass through the curved or segmental slots 21 into or through the gate-post. The bolts 23 are provided with nuts which overlap the edges of the curved or segmental slots, and consequently by tightening these bolts the lower hinge-section can be rigidly clamped in any position of adjustment to the gate-post.

If the nuts of the bolts 23 be loosened, the lower hinge-section can be shifted laterally in either direction upon the bolt 22 as a center for the purpose of adjusting the hinged end of the gate laterally to any required angle of inclination, or as conditions may require in order to adjust the gate relatively to the latch-post, so that the gate will properly close and engage the latch on the latch-post. This is very desirable and important in that the gate-post and the latch-post are not always exactly coincident with relation to each other, and sometimes the posts, either or both, are not exactly perpendicular, so that the gate will not properly latch automatically when it is closed; but this objection is entirely avoided by the adjustment of the lower section of the gravity-hinge, as hereinbefore explained.

The pivotal attachment of the lower hinge-section to the gate-post through the medium of the centrally-arranged bolt-hole 20 and pivot-bolt 22 greatly facilitates the lateral adjustment of the lower hinge-section, but as I believe myself to be the first to construct a gravity-hinge with means whereby it may be adjusted laterally in either direction for the purposes stated I do not confine myself to the pivotal attachment of the lower hinge-section to the gate-post.

Having thus described my invention, what I claim is—

1. The combination, in a gravity-hinge, of an upper hinge-section having inclines, with a lower hinge-section having a concavity and provided with means for adjusting it laterally in either direction, substantially as and for the purposes described.

2. The combination, in a gravity-hinge, of an upper hinge-section, a lower hinge-section, a pivot-bolt on which the lower hinge-section is adapted to tilt laterally in either direction, and means for rigidly securing the lower hinge-section in its adjusted position, substantially as and for the purposes described.

3. The combination, in a gravity-hinge, of an upper hinge-section, with a lower hinge-section having a bolt-hole and a circular, or segmental slot, a pivot-bolt passing through said bolt-hole, and a clamping-bolt passing through the slotted part of the lower hinge-section for rigidly securing it in any position of lateral adjustment, substantially as and for the purposes described.

4. The combination, in a gravity-hinge, of an upper hinge-section, with a lower hinge-section having a bolt-hole and two curved, or segmental slots, a pivot-bolt adapted to pass through said bolt-hole, and clamping-bolts passing through the curved, or segmental slots for rigidly clamping the lower hinge-section in any position to which adjusted, substantially as and for the purposes described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN S. BERRY.

Witnesses:
E. ADAMS,
W. H. ENRIGHT.