A. Y. DODGE.

SAFETY DEVICE FOR PASSENGER ELEVATORS.

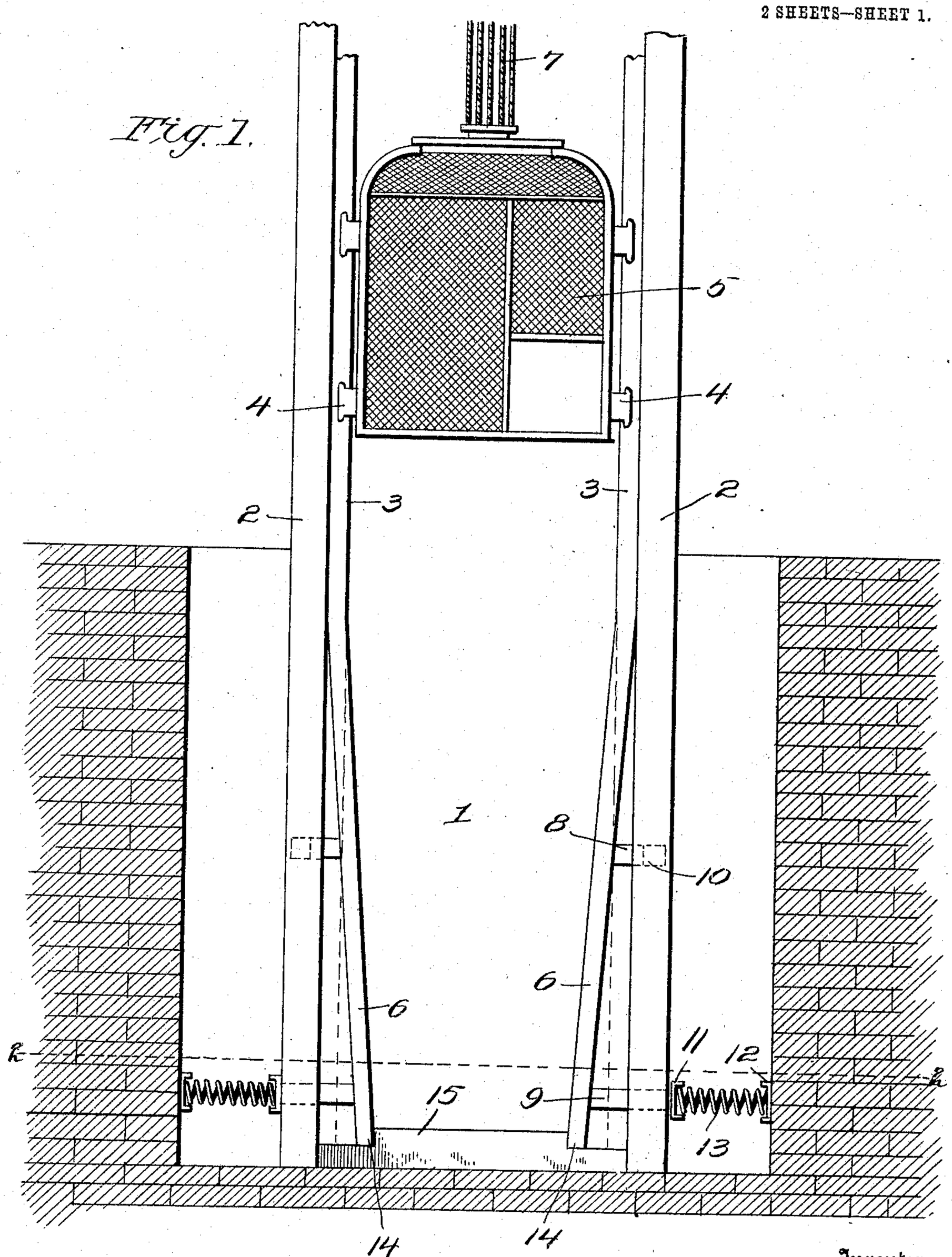
APPLICATION FILED FEB. 19, 1909.

947,075.

Patented Jan. 18, 1910.

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 2.

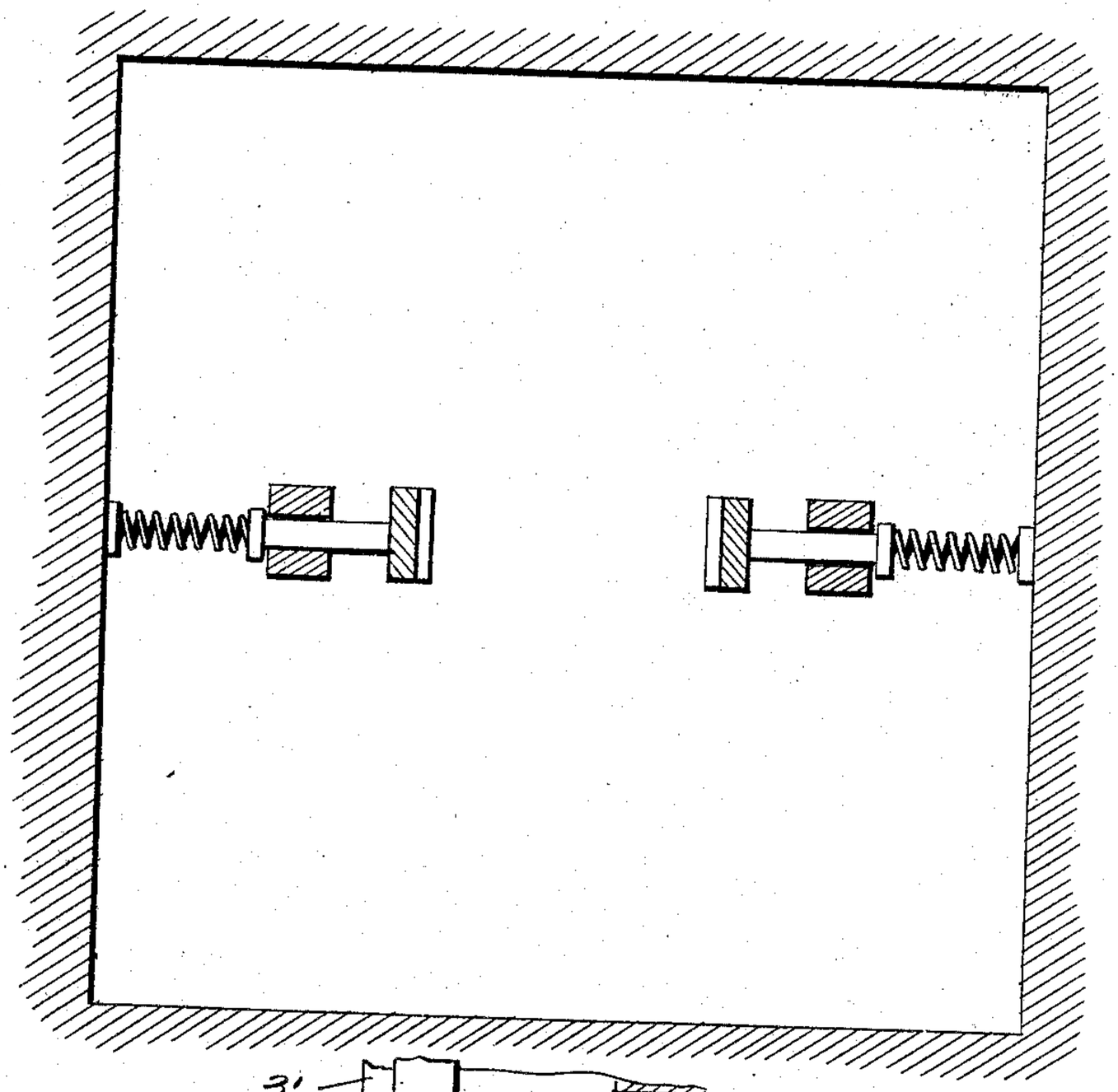
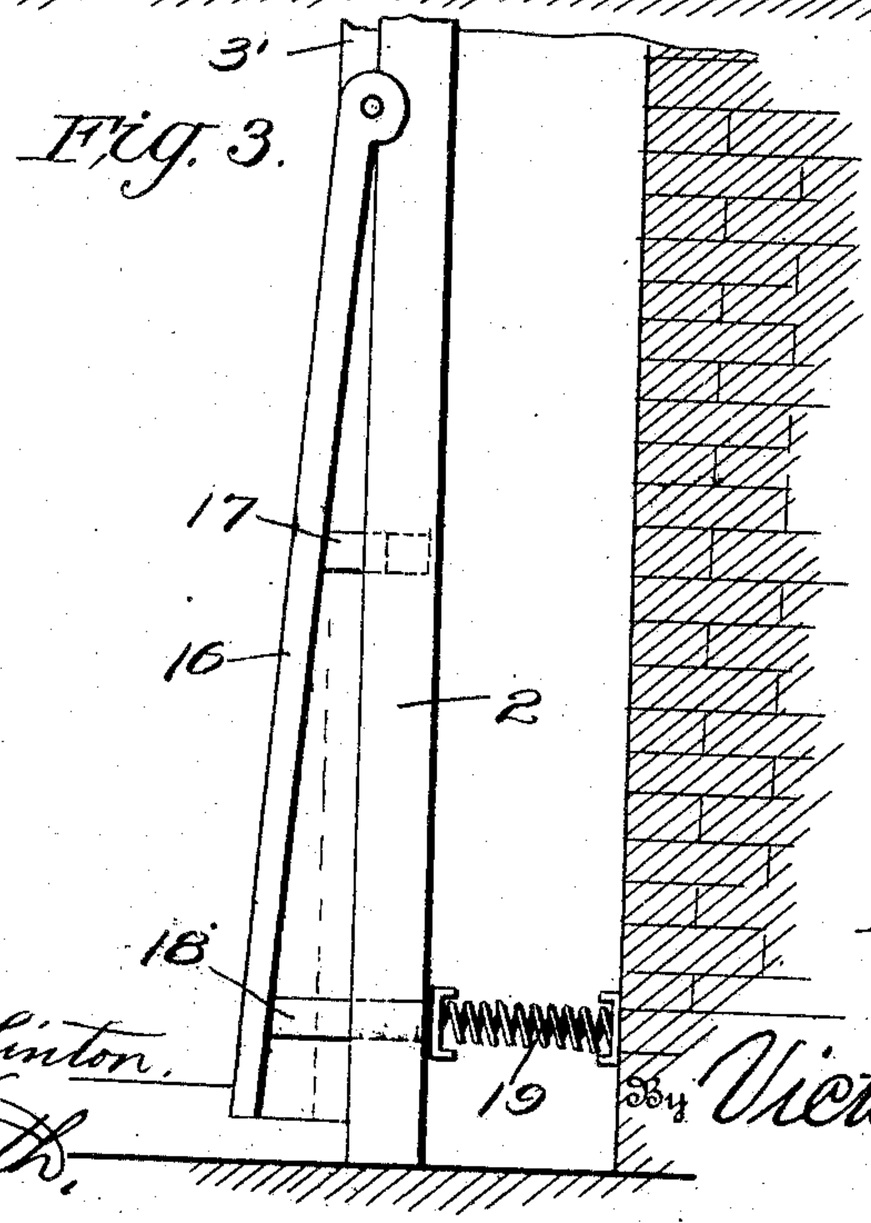


Fig. 3.



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UNITED STATES PATENT OFFICE.

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SAFETY DEVICE FOR PASSENGER-ELEVATORS.

947,075. Specification of Letters Patent. **Patented Jan. 18, 1910.**

Application filed February 19, 1909. Serial No. 478,942.

To all whom it may concern:

Be it known that I, ADIEL Y. DODGE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Safety Devices for Passenger-Elevators, of which the following is a specification.

This invention relates to a safety device for elevators, and the object of the invention is to provide a device of this character which is extremely simple in construction, which can be readily applied to the rail members of an ordinary elevator shaft and which may be installed at a comparatively small price.

With the above, and other objects in view, which will appear as the description progresses, the invention resides in the novel construction and arrangement of parts hereinafter fully described and claimed.

In the accompanying drawings there has been illustrated simple and preferred embodiments of the invention and in which,

Figure 1 is a sectional view through the lower portion of an elevator well illustrating the improvement in applied position. Fig. 2 is a sectional view upon the line 2—2 of Fig. 1. Fig. 3 is a detail elevation of a slightly modified form of the device.

In the accompanying drawings and referring particularly to Figs. 1 and 2 thereof, the numeral 1 designates an elevator well or shaft. The shaft 1 is provided with the usual vertical timbers 2 upon which are positioned the tracks 3 adapted for engagement with the bifurcated guiding arms 4 provided upon the sides of an elevator 5. The tracks 3 may be constructed in the ordinary manner and are of a resilient material so as to allow their lower portions 6 to converge inwardly within the well, as clearly illustrated in Fig. 1 of the drawing. The converging members 6 are positioned below the lowermost landing of the elevator and these members 6 are not contacted by the guide members 4 of the said elevator 5 except in case of an accident when the supporting cables of the cage become broken or disconnected from the said cage. The members 6 are each provided with an upper and a lower offset projection designated by the numerals 8 and 9. The upper projection 8 is of a lesser length than the projection 9 and is adapted to be received within a pocket 10 provided upon each of the beams or timbers 2. The lower projection 9 is adapted to extend through a suitable opening or door also provided in each of the timbers 2 and the projecting ends of the said members 9 are each provided with a cup shaped head 11. The opposite walls of the well 1 are also provided with suitable cup shaped members 12 which are adapted for the reception of the end of a helical spring 13, while the opposite end of the said spring is positioned within the cup shaped member 9. By this arrangement it will be noted that the spring 13 exerting outward pressure upon the offset member 9 tends to force the lower portion of the rail 3 toward the center of the well, the inward movement thereof being limited through the medium of the offset shoulders 14 provided upon a suitable beam 15 positioned upon the bottom or floor of the well 1.

From the above description, taken in connection with the accompanying drawings it will be noted that the inclined members 6 are provided with effective guides through the medium of the offset members 8 and 9 and should the cables 7 of the elevator 5 become broken it will be noted that the guiding members 4 contacting the offset portions 6 of the rails 3 will sufficiently halt the elevator to prevent a forcible drop of the same and at the same time the springs 13 effectively absorb the shock incident to the dropping of the elevator.

In Fig. 3 I have illustrated a slightly modified form of the device. In this figure I have provided the rails 3′ with a pivoted extension 16. The extension 16 is provided with offset portions 17 and 18 of a similar construction to the members 8 and 9 secured upon the lower portion 6 of the track 3. The offset member 17 is adapted to be positioned within a suitable pocket provided upon the vertical timber 2 and the lower extension 18 is adapted to project through a suitable opening also provided in the timber 2. The projecting portion of the offset 18 is provided with a head of a similar construction to that of the head 11 and the said head is adapted for the reception of one end of a spring 19 which has its opposite end received in the cup attached to the wall of the well, and of a similar construction to the cup member 12. The outward movement of the extension 16 is effectively limited through the medium of a shoulder provided upon a beam positioned upon the floor or bottom of the well.

While I have illustrated and described the preferred embodiment of the invention as it now appears to me, it is to be understood that I do not limit myself to the precise structural details referred to and illustrated as minor changes in proportion and degree may be resorted to without departing from or sacrificing any of the advantages of the device.

Having thus fully described the invention what is claimed as new is:

1. A well shaft provided with vertical timbers, rails upon the timbers, said rails having their lower extremities integrally formed with resilient portions, said portions being inclined away from the timbers and toward each other.

2. A well shaft provided with vertical timbers, rail members for the timbers, said rail members having their lower extremities provided with integrally formed resilient members and adapted to spring away from the timbers and toward each other, guiding members for the rails, and means for limiting the forward movement of the rails.

3. A well shaft provided with oppositely disposed vertical timbers, rail members upon the timbers having their extremities formed of resilient material, said extremities being inclined away from the timbers and toward each other, means for limiting the forward movement of the rails toward each other, and guiding means for the rail ends.

4. A well shaft provided with vertical timbers, and having its bottom portion provided with a beam having oppositely arranged shoulders, rail members upon the timbers, said rail members each having its lower extremity constructed of resilient material and adapted to incline toward each other and to contact the offset portions of the beam, said resilient extensions being provided with inwardly projecting members, the vertical timbers being also provided with openings adapted for the reception of these projections, all substantially as set forth.

5. The combination with a pair of vertical timbers, of vertical rail members connected therewith, said rail members having their lower extremities resiliently forced inwardly toward each other away from the timbers, said inclined members being each provided with a pair of offsets, the timbers being each provided with a pocket for the reception of one of the offsets and an opening adapted for the reception of the opposite offset, the offsets engaging the openings having their ends provided with disk shaped heads, and resilient elements adapted to contact the said heads and to force the extensions away from the timbers.

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

ADIEL Y. DODGE.

Witnesses:
JAY J. READ,
A. J. DODGE.