

M. W. JELINEK.  
SAFETY CAGE CHAIR.  
(Application filed Apr. 8, 1901.)

FIG. 1

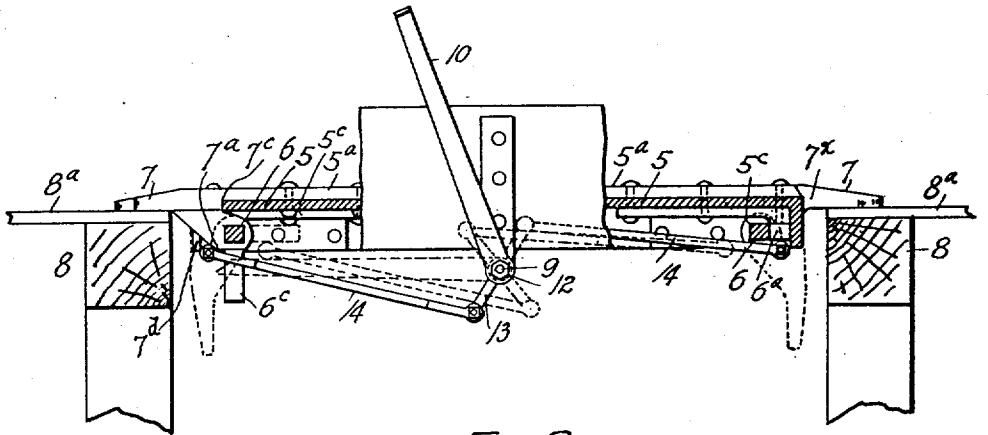
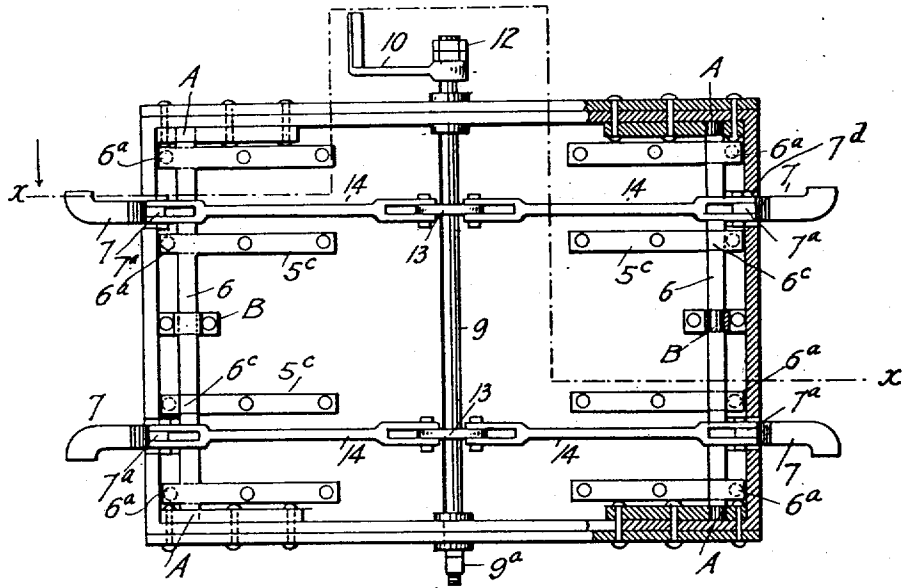


FIG. 2

WITNESSES:

*P. J. Collauro.*  
*Dora C. Shick.*

# UNITED STATES PATENT OFFICE.

MATTHIAS W. JELINEK, OF BLACKHAWK, COLORADO.

## SAFETY CAGE-CHAIR.

SPECIFICATION forming part of Reissued Letters Patent No. 11,921, dated July 9, 1901.

Original No. 667,780, dated February 12, 1901. Application for reissue filed April 6, 1901. Serial No. 54,606.

*To all whom it may concern:*

Be it known that I, MATTHIAS W. JELINEK, a citizen of the United States of America, residing at Blackhawk, in the county of Gilpin and State of Colorado, have invented certain new and useful Improvements in Safety Cage-Chairs; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in safety cage-chairs for mining-shafts of the class having chairs or supporting-dogs mounted on the cage and arranged to be manipulated by the cager or person in charge of the cage whenever it is necessary or desirable to stop.

The invention will now be described in detail, reference being made to the accompanying drawings, in which is illustrated an embodiment thereof.

In the drawings, Figure 1 is an underneath view of a cage equipped with my improvements. Fig. 2 is a section taken through the cage on the line  $x-x$ , Fig. 1, viewed in the direction of the arrow and showing the shaft-timbers.

The same reference characters indicate the same parts in all the views.

Let the numeral 5 designate the cage, to the bottom of which are journaled two bars or axles 6, one near each end of the cage. The axles, as shown in the drawings, are square in cross-section, except at the bearings, of which each axle has three, two end bearings A A and an intermediate bearing B. Upon each of these axles are mounted and made fast two dogs 7, which form the chairs of the cage. The length of these dogs is so regulated that when projected outwardly to a horizontal position they engage the shaft-timbers 8 at the various stations or levels which lie in their path, causing the cage to stop. (See Fig. 1 and full lines in Fig. 2.)

When, however, these dogs are thrown to the dotted-line position, (see Fig. 2,) they hang down below the cage, which is then allowed to move freely in the shaft. The mechanism for operating these dogs will now be described.

Upon the central portion of the bottom of the cage is journaled a shaft 9, whose extremities protrude on opposite sides sufficiently for the attachment of a crank 10 at either end of the shaft. The shaft extremities are square, as shown at 9<sup>a</sup>, to receive the crank, which is held in place in any suitable manner, as by nuts 12. To this shaft are made fast two short bars 13, each of which projects from the shaft in opposite directions, forming two cranks of equal length. Each of the cranks is connected with one extremity of a link 14, whose opposite extremity is connected with a projection 7<sup>a</sup>, formed on a dog 7. Hence it is evident that by giving the shaft 9 a partial turn in the one direction or the other, as desired, the axles 6 will be actuated sufficiently to throw the dogs to either the full-line position or dotted-line position in Fig. 2. The turning of the shaft 9 may be accomplished through the medium of the crank 10, which may be turned by the cager or by the engineer through the instrumentality of a simple device (not shown) located at each level or station, the said operating device being covered by Letters Patent No. 667,781, granted me February 12, 1901.

The dogs 7 are in the horizontal position by virtue of lugs 6<sup>a</sup>, formed on the axle 6, and adapted to engage the bottom of the cage and prevent the axles from turning further after the dogs 7 have reached the horizontal position. Each dog is further locked against movement when in the horizontal position by a shoulder 7<sup>b</sup>, which engages or abuts against the extremity of a rail 5<sup>a</sup> on the bottom of the cage. When the dogs 7 are thrown to the vertical position or the dotted-line position in Fig. 1, they are prevented from further inward movement by stops 6<sup>b</sup>, formed on the axles 6 and extending at right angles to the lugs 6<sup>a</sup>, whereby the dogs 7 are held in the vertical position, the said stops bearing against

metal strips 5°, secured to the bottom of the cage.

It will be understood that it will be impossible for the cager to withdraw the dogs from the horizontal position until the cage has been raised from the wall-plates 8<sup>a</sup> of the timbers 8 sufficiently to allow the dogs to swing to the dotted-line position. Hence when the dogs are thrown to the idle position the engineer must have complete control of the engine, thus preventing the withdrawal of the dogs or chairs without his knowledge, which might result in accident by precipitating the cage to the bottom of the shaft. In case of accident to the brake or cable of the hoisting-engine, whereby the engineer loses control of the cage, the latter may be stopped by the cager by throwing the chair-dogs to the horizontal position, as heretofore explained.

When the chair-dogs 7 are in the position shown in full lines in the drawings, they act as the rails on which the ore-car (not shown) is run from the drift or tunnel onto the cage. Hence the dogs are in line with the track-rails 5<sup>a</sup> on the floor of the cage, and their extremities are turned outwardly to guide the car to its position on the rails of the cage.

It will be seen from an inspection of Fig. 2 that the upper surface of the plate 8<sup>a</sup> is in the same horizontal plane with the bottom surface of the part 5, which is the bottom or floor of the car. The floor of the car, as shown, is of thin material, and in effect for all practical purposes the surface 8<sup>a</sup> may be said to be in the same plane with the bottom of the cage.

It will be seen from Fig. 1 and a comparison of the right and left hand sides of the platform illustrated in Fig. 2 that the forward part 7<sup>x</sup> of the dog occupies a higher plane than its rear part.

The bottom of the cage is slotted at 7<sup>a</sup> to allow the higher front part of the dog to pass through.

Having thus described my invention, what I claim is—

1. In a safety-cage-chair construction, the combination with a cage, of dogs pivotally mounted thereon and arranged to be thrown to a position to form chairs adapted to engage the wall-plates at the various levels, the floor of the cage being provided with rails with which the dogs are in line, whereby the cars from a tunnel or drift are guided by the dogs to the rails of the cage.

2. In a safety-cage-chair construction, the combination with a cage, of dogs movably mounted thereon and arranged to support a cage at the various drifts or levels, the said dogs when in the cage-supporting position, lying in the plane of the cage-floor and the bottom of the drift or tunnel, said dogs forming guides to facilitate the running of the car from the drift to its position on the cage.

3. In a safety-cage-chair construction, the combination with a cage, of dogs movably

mounted thereon and arranged to support a car at the various drifts or levels, the said dogs when in the cage-supporting position, lying in the plane of the cage-floor and the bottom of the drift or tunnel, the free extremities of the dogs being turned outwardly to facilitate the moving of the car from the drift to its position on the cage.

4. In a safety-cage-chair construction the combination with a cage, of dogs pivotally mounted thereon and arranged to be thrown to a position to form chairs adapted to engage a surface at each of the various levels, the said surface lying substantially in the same plane with the floor of the cage when the latter is at rest.

5. In a safety-cage-chair construction, the combination with a cage, of dogs movably mounted thereon and arranged to support a cage at the various drifts or levels, the said dogs when in the cage-supporting position, engaging a surface substantially in the plane of the cage-floor, each dog being provided with a shoulder which abuts against the cage-floor to form a stop and lock the dog in the cage-supporting position.

6. The combination with a mining-cage, of dogs pivotally connected therewith below the floor of the cage and arranged to support the cage at the various drifts or levels, the body of the dog projecting above the plane of the pivot and resting on a surface substantially in the plane of the cage-floor, each dog having a shoulder which abuts against the edge of the cage-floor, whereby the dog is locked in the cage-supporting position.

7. A chair-dog having an opening in its rear extremity to receive a pivot-support, a shoulder projecting above said opening, a cage-supporting extension projecting forward of and in the plane of the shoulder, and a depending apertured projection for operating purposes.

8. The combination, with a cage, of dogs movably connected therewith below the plane of the upper surface of the bottom of the cage, the bottom of the cage being slotted to allow the upper portion of the dogs to pass through, the said dogs being adapted to project beyond the body of the cage and rest on a support, each dog being provided with a stop adapted to engage the bottom of the cage and lock the dog against further movement when the cage is at rest, the dogs being arranged to swing inwardly into the shaft to allow the cage to move up and down without obstruction, substantially as described.

9. The combination of a cage, of chair-dogs movably mounted thereon below the upper surface of the bottom of the cage which is slotted to allow the upper part of the dogs to pass through, the arrangement being such that the dogs are adapted to support the cage when resting on a supporting-surface and adapted to swing inwardly to allow the cage

to move up and down in the shaft without obstruction, substantially as described.

10. In a safety-cage-chair construction, the combination with a cage, of dogs movably  
5 mounted thereon and arranged to support a cage at the various drifts or levels, the said dogs when in the cage-supporting position lying in the plane of the cage-floor and the

bottom of the drift or tunnel, substantially as described. 10

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

MATTHIAS W. JELINEK.

Witnesses:

JAMES WILKINSON,  
CHARLES A. FROST.