

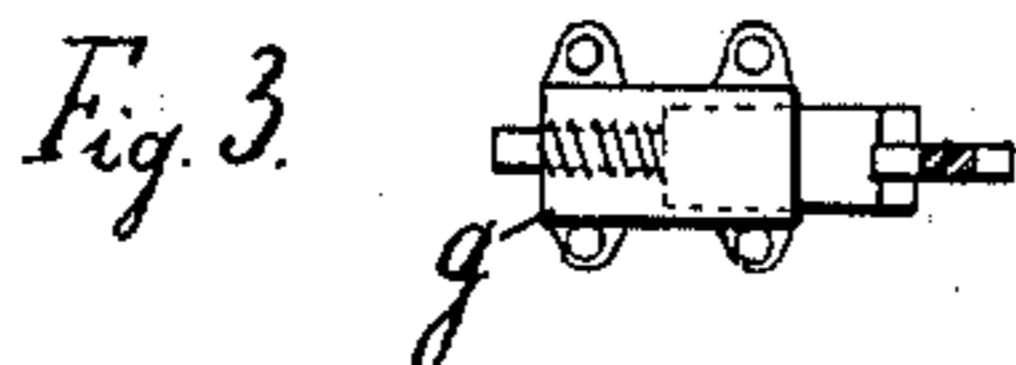
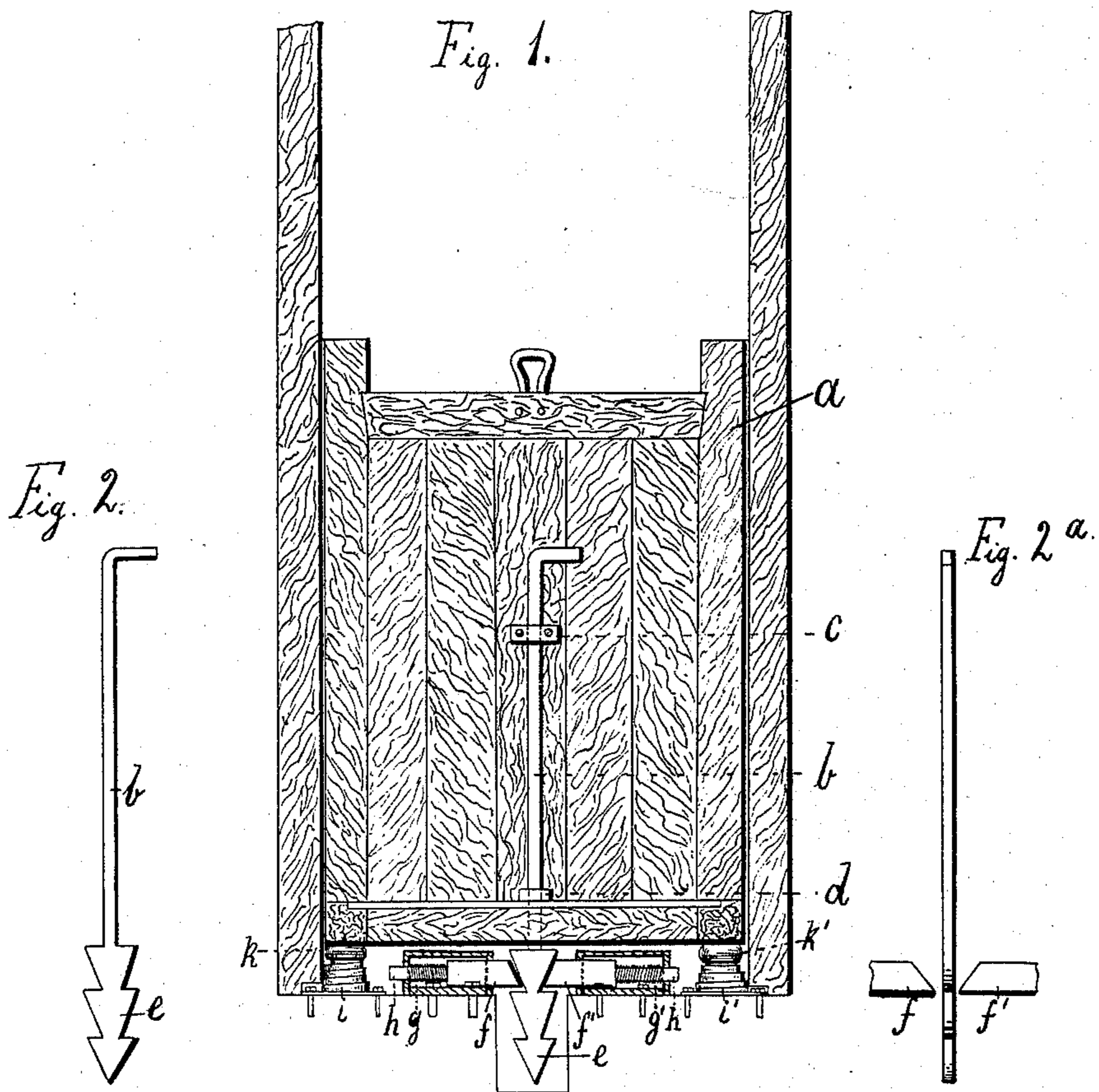
No. 607,998.

Patented July 26, 1898.

H. KURTZIG.
SAFETY DEVICE FOR LIFTS.

(Application filed Apr. 6, 1898.)

(No Model.)



Witnesses:

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UNITED STATES PATENT OFFICE.

HEINRICH KURTZIG, OF INOWRAZLAW, GERMANY.

SAFETY DEVICE FOR LIFTS.

SPECIFICATION forming part of Letters Patent No. 607,998, dated July 26, 1898.

Application filed April 6, 1898. Serial No. 676,699. (No model.)

To all whom it may concern:

Be it known that I, HEINRICH KURTZIG, a citizen of Prussia, residing at Inowrazlaw, in the Province of Posen, Prussia, Germany, have invented certain new and useful Improvements in Safety Devices for Lifts; and I do hereby 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.

This invention relates to a safety device for lifts and is intended to prevent a lift from falling to the ground with full force in the event of a band, cord, or the like breaking and the catching device not acting from any reason. For this object the lift is provided at the corners of its bottom part with buffers which coincide with a similar number of buffers arranged on the ground or floor of the lift-shaft and which receive the shock of the falling lift striking thereon. As, however, the lift in consequence of the spring rebound would again be thrown upward, care is taken also to provide a retaining device which at the first rebound retains the lift on the ground.

This improved safety device is shown in the accompanying drawings, in which—

Figure 1 is an elevation of a lift fitted with the safety device. Figs. 2, 2^a, and 3 are details.

On the floor of the lift *a* buffers *k k'* are arranged, which coincide with buffers *i i'* at the bottom of the lift-shaft. If the rope or band break, the lift will fall down through the different floors. The buffers will, however, absorb the dangerous shock, or at least so diminish it that violent shakings which might produce the breakage of bones or fractures of the skull or the like are avoided. The lift would, however, spring up again on encountering the buffers. In order to prevent this, a bar *b*, provided with several catch-teeth *e*, is arranged in the center of the guide-frame. Pawls or bolts *f f'* engage with these teeth on each side under the action of springs as soon as the lift-cage encounters the buffers *i i'*. The bolts *f f'* are contained in cases *g g'*, and springs press the bolts *f f'* constantly together, said springs being compressed on bars *h* between the bolts and the wall of the

case *g* and *g'*, respectively. If the lift-cage encounter the buffers *i i'*, the taper ends *e* of the bar *b* will first force the bolts *f f'* apart, and said bolts will then immediately close above one of the ratchet-teeth and retain the cage and prevent it springing up again. In order that the cage may again be released from this position, the rod *b* is revolvably mounted in guides or supports *c d*. By means of a handle it may be turned ninety degrees, so that it assumes the position shown in Fig. 2^a. In this position the compressed buffer-springs may exert their upwardly-directed pressure, thus drawing the bar *b* out from between the bolts.

The arrangement hereinbefore described has for its object to increase safety in the case of lifts which are provided with safety appliances or clutch devices and is not intended in any way to replace the ordinary stop or clutch devices. It is generally intended to be employed in combination with the latter as a further means of safety, adapted to come into action only in those cases where the other devices fail.

Having now particularly described and ascertained the nature of the said invention and in what manner the same is to be performed, I declare that what I claim is—

1. In combination, the lift-cage and lift-shaft, the ratchet-bar carried by one of said parts, a pawl carried by the other part adapted to engage said ratchet-bar, and the buffer devices interposed between the bottom of the lift-cage and the bottom of the shaft, substantially as described.

2. In combination, the lift-cage and lift-shaft, the ratchet-bar rotatably connected to one of said parts, a pawl carried by the other part adapted to engage said ratchet-bar, means for rotating the ratchet-bar to disengage the pawl therefrom, substantially as described.

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

HEINRICH KURTZIG.

Witnesses:

M. HAMBURGER,
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