No. 685,841. Patented Nov. 5, 1901.

A. JOHNSON.

DUST GUARD FOR CAR AXLES.

(Application filed May 9, 1901.)

(No Model.)

Fig. 1.

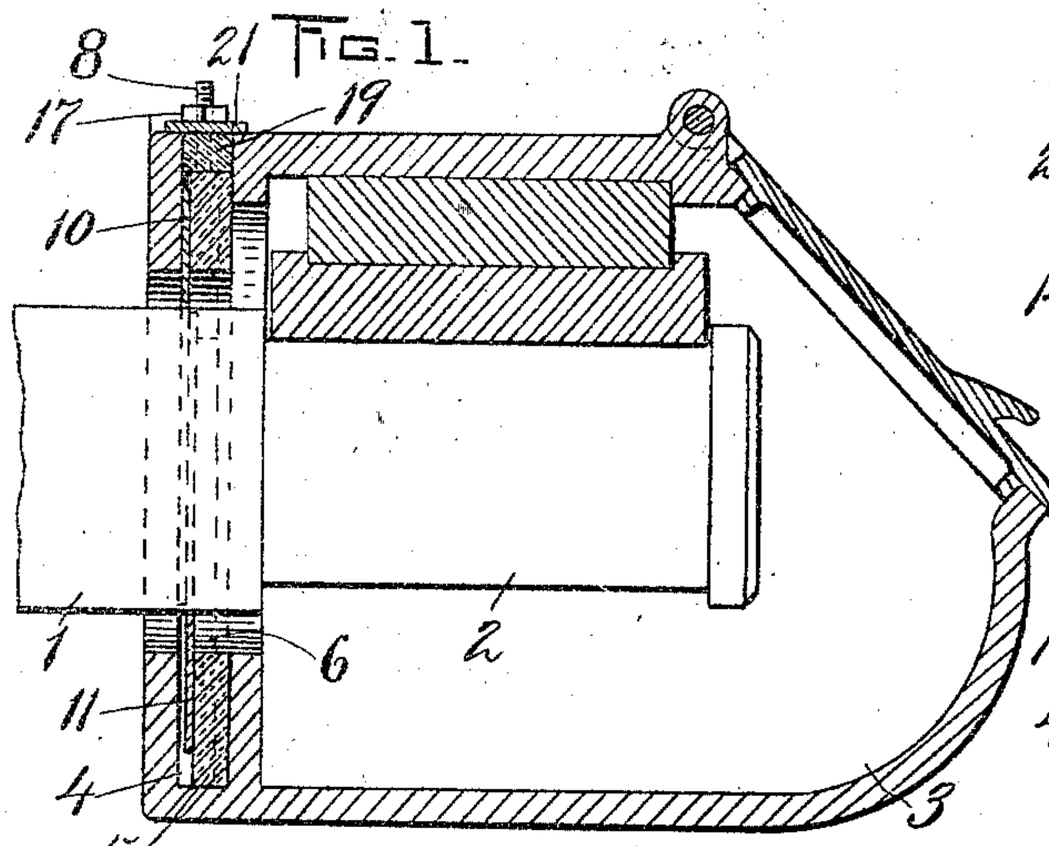


Fig. 3.

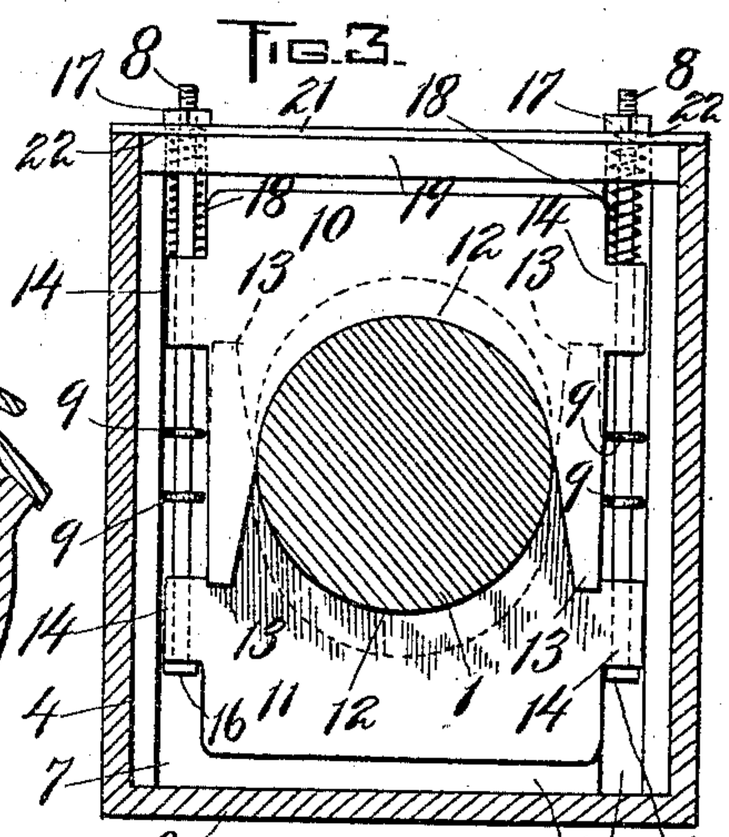


Fig. 2.

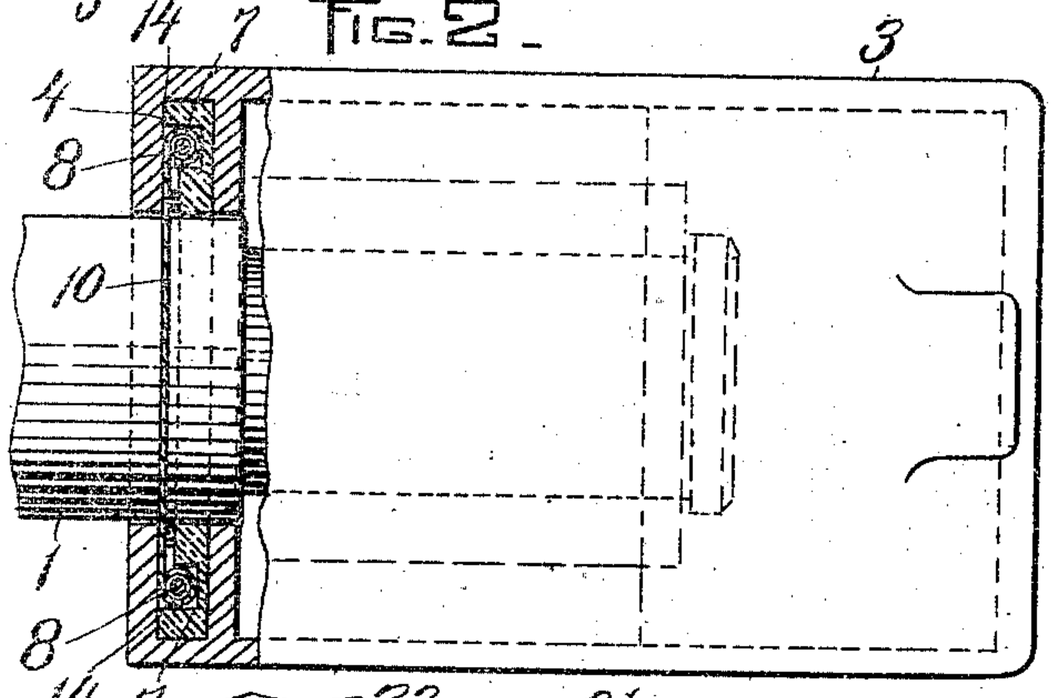


Fig. 6.

Fig. 5.

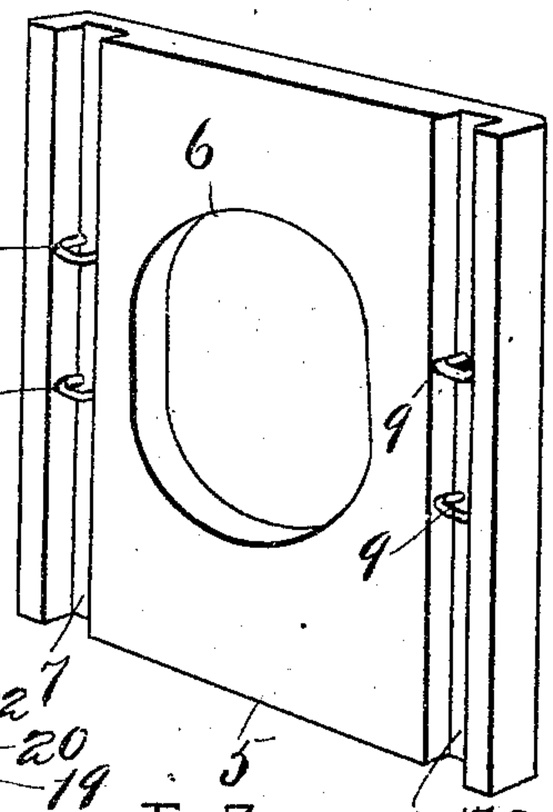


Fig. 4.

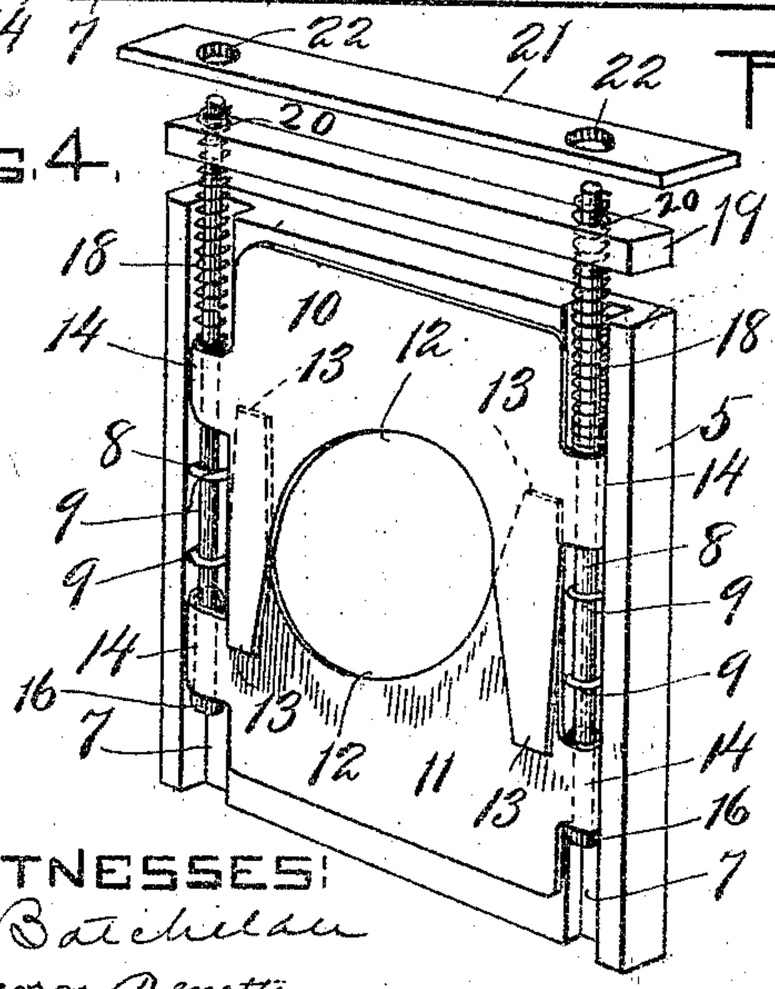
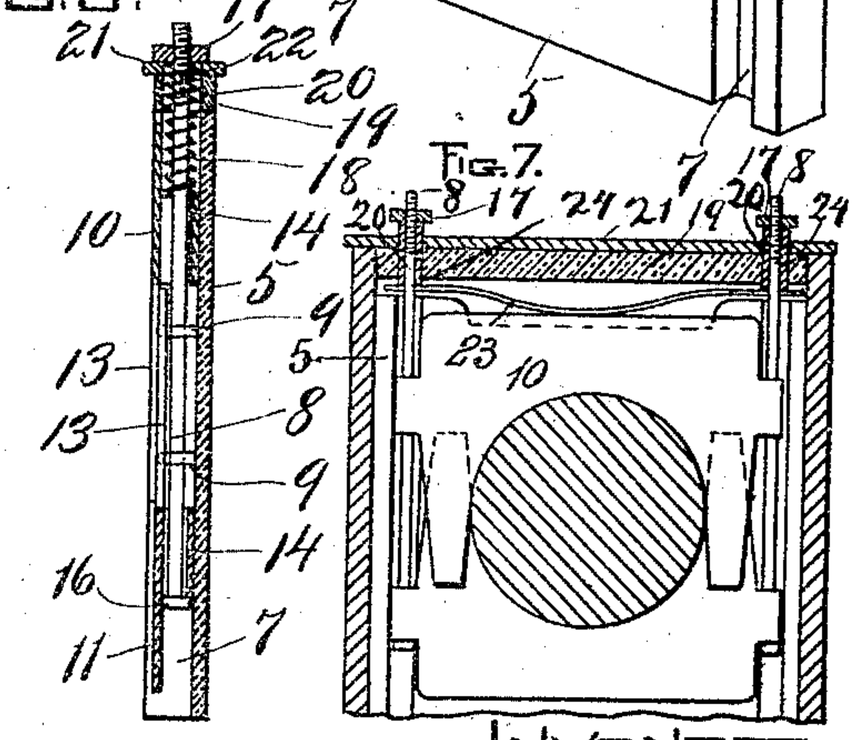


Fig. 7.



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UNITED STATES PATENT OFFICE.

ANDREW JOHNSON, OF CONCORD, NEW HAMPSHIRE.

DUST-GUARD FOR CAR-AXLES.

SPECIFICATION forming part of Letters Patent No. 685,841, dated November 5, 1901.

Application filed May 9, 1901. Serial No. 59,431. (No model.)

To all whom it may concern:

Be it known that I, ANDREW JOHNSON, of Concord, in the county of Merrimack and State of New Hampshire, have invented certain new and useful Improvements in Dust-Guards for Car-Axles, of which the following is a specification.

This invention relates to dust-guards for the axle-boxes of railway-cars; and it includes among its objects to provide a device of this character which shall be, partially at least, indestructible by a hot-box fire and which shall be durable and of a highly dust-proof character.

A further object is to combine cheapness of manufacture with the above-named qualities. With these ends in view the invention consists in the improvements which I shall now proceed to describe and claim.

Of the accompanying drawings, Figure 1 represents an axial vertical section of a car journal-box provided with my improved dust-guard. Fig. 2 represents a top plan view thereof, partly in section. Fig. 3 represents a transverse section taken just back of the guard. Fig. 4 represents a perspective view of the guard, partly disassembled. Fig. 5 represents a transverse section of the guard taken through one of the guide-grooves of the sand-board. Fig. 6 represents a perspective view of the sand-board. Fig. 7 represents a vertical transverse section, partly broken away, showing a modified form of spring.

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

In the drawings, 1 indicates the car-axle, 2 the journal at the end thereof, and 3 indicates an axle-box of ordinary construction, provided with a deep transverse recess 4, constituting a guide or socket to receive a rectangular plate commonly known as the "sand-board," and which in one form which it assumes according to my invention is represented at 5. The sand-board is provided with an aperture 6, through which the axle 1 passes, which aperture, as shown in the drawings, is vertically elongated, but may be of other suitable form.

On the rear face of the sand-board 5, near its side edges, are formed a pair of vertical guide-grooves 7 7, occupied by two guide-rods 8 8, which are held in engagement with the sand-board, so as to be capable of a vertical sliding movement with respect thereto, by means of two staples 9 9 in each groove, fastened at different heights to the sand-board and embracing the rods.

10 11 are two sheet-metal guard-plates, slidingly mounted close to the grooved rear face of the sand-board 5 and provided with semicircular recesses 12 12, formed to fit around the axle 1, these plates having overlapping legs 13 13 on opposite sides of the recesses, which preserve the continuity of the guard when the plates are moved relatively to each other. Each plate is formed with two integral ears 14 14 on its opposite side edges, bent into tubular form and embracing the two rods 8 8, whereby the plates have a guiding engagement with the rods. These tubular ears are offset from the plane of the plates and are received in the grooves 7 7, thus permitting the bodies of the plates to lie close to the face of the sand-board 5. The rods 8 8 at their lower ends are formed with heads 16 16, engaging the ears 14 14 on the lower guard-plate 11 and at their upper ends are screw-threaded and provided with nuts 17 17. Between said nuts and the ears 14 14 on the upper plate 10 are interposed two helical springs 18 18, which it will be seen have the effect of yieldingly forcing the plates in the direction of each other, so as to close them upon the axle 1. By adjusting the nuts wear on the plates may be taken up and their pressure against the axle regulated.

19 represents an elongated block forming a cover or closure, which is retained by a friction-tight fit within the mouth of the guide or socket 4 in the axle-box and serves to exclude dust and to retain the sand-board and guard-plates within the socket. This block is formed with apertures 20 20 for the passage of the rods 8 and springs 18. Its material may be wood. Above the block 19 is a retaining-plate 21, having apertures 22 22 for the passage of the rods and springs and abutting against the nuts 17 17. Said plate overlies the axle-box 3 and serves to limit the downward movement of the guard in its socket.

It will be observed that the sand-board 5 acts as a guiding-support for the guard-plates 10 11 and is of such dimensions as to oc-

cupy the major portion of the guide or socket 4 in the axle-box, thereby also serving in the capacity of a dust-excluder. The construction illustrated in the drawings is that of a wooden sand-board which has the advantage of cheapness of manufacture and durability under shocks. By combining such a sand-board with metallic dust-plates I provide a device which is as to its most important parts (the dust-plates) indestructible by a hot-box fire and which will be capable of performing its functions in a useful degree after such a contingency and where a dust-guard composed principally of wood would be rendered useless. The sand-board may, however, be made of metal.

Fig. 7 shows a modification in which for the helical springs I substitute a bowed leaf-spring 23, whose middle rests on the upper guard-plate 10 and whose ends bear against sleeves 24 24, surrounding the rods 8 8 and engaged by the nuts 17 17, said sleeves passing through the holes 20 20 in the filling-block 19.

I claim—

1. A dust-guard for car-axle boxes comprising a sand-board having rod-guides, rods slidingly mounted in said guides, upper and lower guard-plates formed to embrace the axle and engaged with said rods, and springs surrounding the rods and yieldingly pressing the plates toward each other.

2. A dust-guard for car-axle boxes comprising a sand-board, rods guided thereon, upper and lower sheet-metal guard-plates formed to embrace the axle and having integral ears bent into tubular form and constituting guides embracing the rods, and springs surrounding said rods and yieldingly pressing the plates toward each other.

3. A dust-guard for car-axle boxes comprising a sand-board having guiding-grooves on one face, rods mounted in said grooves, upper and lower guard-plates formed to embrace the axle and lying closely against the said face of the sand-board, said plates having tubular offset ears occupying said grooves and embracing the rods, and means yieldingly pressing said plates toward each other.

4. In combination, an axle, an axle-box having a socket or guide for a sand-board, a wooden sand-board filling the major portion of said socket, upper and lower thin metallic guard-plates slidingly mounted against one face of the sand-board and embracing the axle, and means yieldingly pressing said guard-plates toward each other.

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

ANDREW JOHNSON.

Witnesses:

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