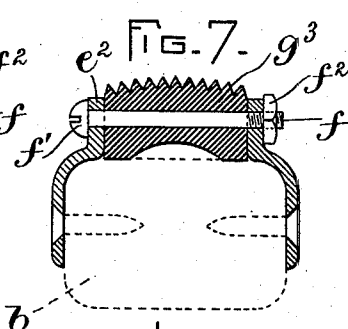
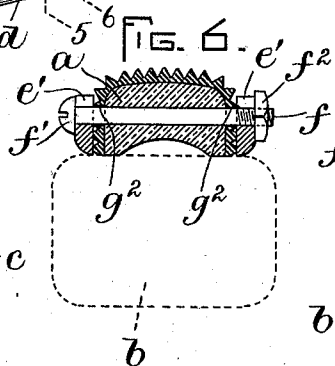
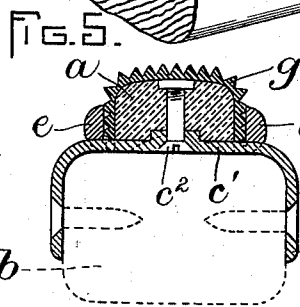
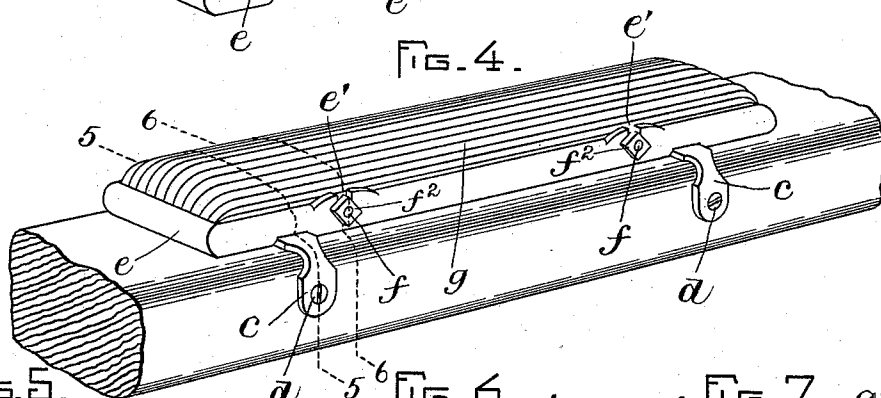
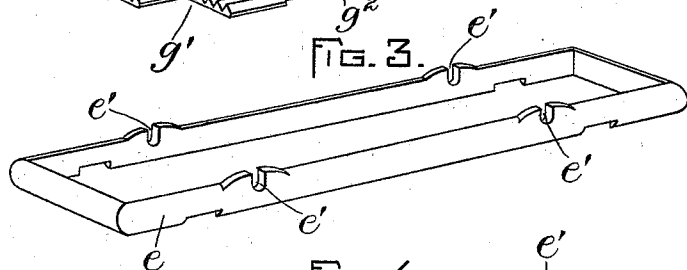
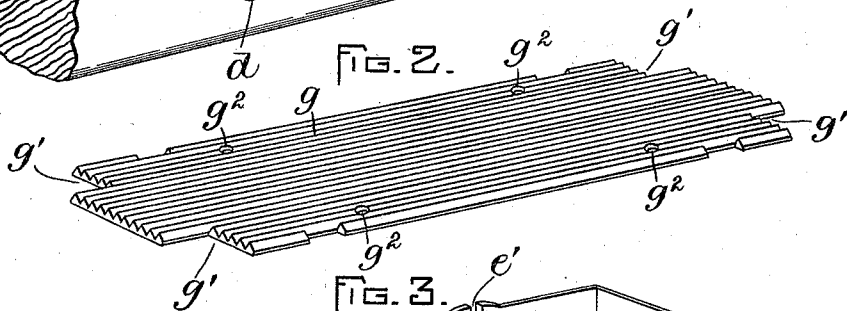
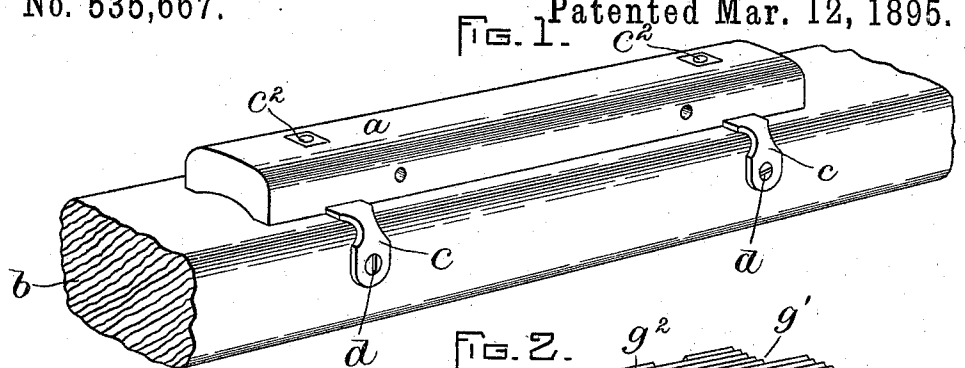


(No Model.)

G. O. BUCKNAM.
STEP FOR WAGON SHAFTS.

No. 535,667.

Patented Mar. 12, 1895.



WITNESSES:
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UNITED STATES PATENT OFFICE.

GEORGE O. BUCKNAM, OF STONEHAM, MASSACHUSETTS.

STEP FOR WAGON-SHAFTS.

SPECIFICATION forming part of Letters Patent No. 535,667, dated March 12, 1895.

Application filed November 22, 1894. Serial No. 529,584. (No model.)

To all whom it may concern:

Be it known that I, GEORGE O. BUCKNAM, of Stoneham, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Steps and Protectors for Wagon-Shafts, of which the following is a specification.

This invention has for its object to provide an attachment for shafts or thills of express wagons and other like vehicles having a seat at the front end of the wagon arranged so that the driver steps upon the shaft in getting in and out, said attachment being adapted to serve both as a protection of the shaft against wear by contact with the boot of the driver and as a frictional step to prevent the foot from slipping on the shaft.

The invention consists in a step and protector for wagon-shafts comprising a rigid holder having downwardly projecting ears adapted to be attached to the sides of the shaft, and a yielding pad detachably secured by said holder and held thereby upon the upper side of the shaft, said pad projecting above the holder so that it furnishes a yielding surface or bearing for the foot of the driver.

Of the accompanying drawings, forming a part of this specification, Figures 1, 2, and 3 represent perspective views of the parts of my improved step and protector when constructed in the best form known to me at present. Fig. 4 represents a similar view showing the device in place upon a shaft. Fig. 5 represents a transverse section on line 5—5 of Fig. 4. Fig. 6 represents a section on line 6—6 of Fig. 4. Fig. 7 represents a modification.

The same letters of reference indicate the same parts in all the figures.

In the drawings—*a* represents a block or filling-piece of any suitable rigid material, preferably wood, formed to rest upon the upper side of a wagon-shaft *b* and provided with means such as downwardly projecting ears *cc* whereby it may be attached to the shaft by screws *d* passing through said ears. The ears are preferably detachably secured to the block *a* by means of a cross-bar *c'* (Fig. 5) upon which the ears are formed, said cross-bar being attached to the block by a screw *c*. *e* represents a metal frame formed to rest

upon the shaft *b* and to surround the block *a*, the frame being larger than the block, so that a space exists between its inner surfaces and the outer surfaces of the block for the reception of the edges of the yielding pad hereinafter described. The frame *e* is provided with openings *e'* which are preferably slots open at the upper edge of the frame, said openings receiving attaching devices which secure the frame to the block. Said attaching devices are preferably bolts *f* passing through the openings *e* from side to side of the frame, the block being provided with holes to receive said bolts. Each bolt has a head *f'* at one end, and a nut *f²* at the opposite end whereby it may be secured to the frame.

g represents a yielding pad which is adapted to cover the exposed surfaces of the block *a* and to be inserted in the space existing between the surfaces of the block and frame, the frame being enough larger than the block to accommodate the thickness of the edges of the pad. I prefer to make the pad of sheet rubber, corrugated upon its outer surface, as shown in Fig. 2, the corners of the sheet or strip being cut away at *g'* to permit the pad to be fitted to the corners of the block *a*. The pad is provided near its edges with perforations *g²* to receive the attaching bolts or screws *f*, so that the latter serve to positively connect the pad to the block and frame.

In applying the above described attachment to a shaft *b*, the ears *c*, which have first been attached to the block *a*, are attached to the shaft, the block being thus mounted upon the upper side of the shaft, as shown in Fig. 1. The pad *g* is then placed upon the block, and the frame *e* is passed down to place upon the block, carrying the edges of the pad downwardly so that they are confined between the pad and the block as shown in Figs. 5 and 6. The bolts *f* are then passed through the frame, pad, and block, and secured by the nuts *f²*. When the pad has become useless by wear, it may be renewed by removing the frame and securing a new pad in position in the manner above described. I propose furnishing pads of the above described construction to the trade as an article of manufacture, so that purchasers of the attachment can provide themselves with additional pads.

It will be seen that the block *a* and frame *e* constitute a two-part holder adapted to secure a pad made in the form of a sheet to the shaft, the block elevating the main portion of the pad above the frame, so that it is in an exposed position and prevents contact between the foot and the frame. While this two-part holder embodies probably the best construction for a pad made in sheet form, I do not limit myself thereto, nor to the sheet form of the pad.

In Fig. 7 I show a modification in which the pad instead of being a sheet of corrugated rubber as above described, is a block *g*³ of such thickness that its lower portion will bear upon the shaft and its upper portion or tread surface will project above the frame. In this case, the block or filling-piece *a* not being required, the holder will consist simply of a frame *e*² which may be of the same form as the frame *e* above described and is provided with downwardly projecting ears *e*³ taking the place of the ears *c* above described, said ears *e*³ being preferably integral with the frame.

I claim—

1. A step and protector for wagon-shafts comprising a block having means for attachment to a shaft, a metal frame formed to surround the block and having means for attachment thereto, said block and frame con-

stituting a two-part holder, and a yielding pad confined at its margin between said frame and block and having its main portion supported above the frame by the block.

2. The combination of a block or filling-piece having downwardly projecting ears adapted to be attached to a shaft, a frame formed to inclose said block and provided with openings in its side-bars adapted to receive bolts or screws which connect the frame and block, the frame being larger than the block, and a yielding pad formed to bear upon the block and enter the spaces between the block and frame, as set forth.

3. As an article of manufacture, a flexible sheet-rubber step-pad having a corrugated outer surface, corner recesses *g*¹ whereby the marginal portions of the pad are adapted to be bent over the sides and ends of a supporting block, and orifices *g*² formed in the portions of the pad that are bent over the sides of the block, said orifices being arranged to receive attaching bolts, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 17th day of November, A. D. 1894.

GEORGE O. BUCKNAM.

Witnesses:

C. F. BROWN,
C. S. EATON.