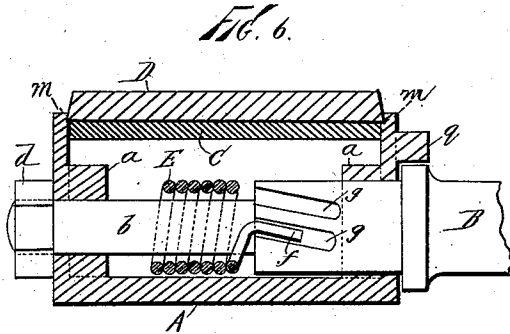
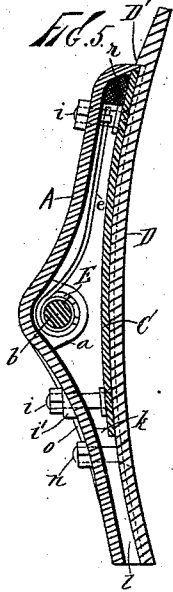
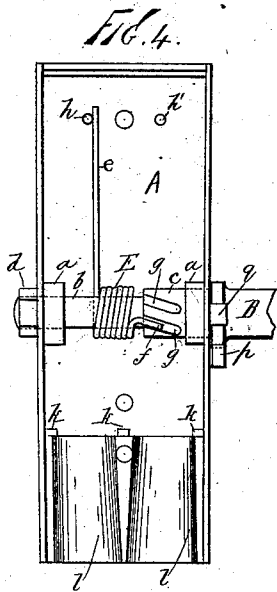
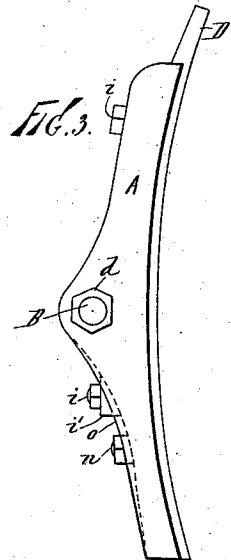
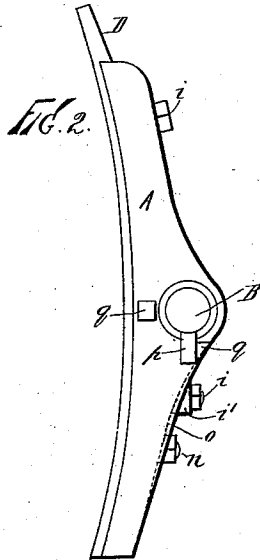
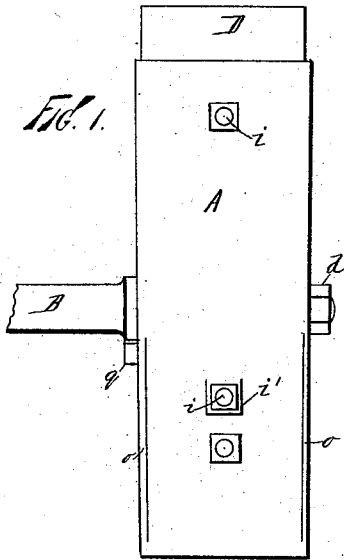


(No Model.)

M. POTTER.
BRAKE BLOCK.

No. 375,383.

Patented Dec. 27, 1887.



Witnesses:
John Buckley,
L. H. Osgood

Inventor:
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UNITED STATES PATENT OFFICE.

MORGAN POTTER, OF FISHKILL-ON-THE-HUDSON, NEW YORK.

BRAKE-BLOCK.

SPECIFICATION forming part of Letters Patent No. 375,383, dated December 27, 1887.

Application filed September 30, 1887. Serial No. 251,098. (No model.)

To all whom it may concern:

Be it known that I, MORGAN POTTER, of Fishkill-on-the-Hudson, county of Dutchess, and State of New York, have invented certain new and useful Improvements in Brake-Blocks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My present invention relates to that general class of brake-blocks chiefly employed in connection with wagon-wheels, (applicable also in analogous situations,) and especially to the improved form shown in my previous application for patent filed February 14, 1887, Serial No. 227,268.

The object of my present invention is to still further reduce the cost of construction, to render the block easier to make and mount or assemble for use, increase the durability and efficiency of the working parts, and to render the whole better adapted for the general uses and purposes intended. To accomplish all of this my improvements involve certain novel and useful peculiarities of construction and relative arrangements or combinations of parts, as will be herein first fully described, and then pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a view in elevation showing the back of the brake-block, the rod or shaft being broken off within a short distance of the block. Fig. 2 is a view in side elevation looking toward the side next the rod or shaft, and Fig. 3 a similar view of the opposite side or face. Fig. 4 is a front elevation of the block, the shoe and cover being detached, showing the construction of the spring, its arrangement and connections, and the manner of forming the lower portion of the shell. Fig. 5 is a vertical section and partial elevation showing all the parts in place for use. Fig. 6 is a cross-section and partial elevation upon a larger scale than previous figures.

In all the figures like letters of reference, wherever they occur, indicate corresponding parts.

As explained in my aforesaid previous application for patent, the block is arranged to carry the shoe evenly and firmly against the wheel (when in braking position) and to automatically free it from the wheel when the

braking force is released, requiring only a very short sweep of the brake-lever to bring it back again to working position, and in the construction therein indicated a flat spring was employed, the same being secured to the cover at one end and bearing upon the shaft at the free end. This rendered it difficult to locate the spring in working position, concealed the spring at all times when in place, and afforded only a limited working-bearing against the shaft, with no provision for taking up the wear of parts or compensating for loss of force in the spring. All these points or features and others of minor consequence I improve in my present construction.

A represents the box or shell, preferably made of malleable iron. This contains the spring, receives the cover, holds the brake-shoe, and is mounted upon the brake-shaft.

B is the brake shaft, through means of which the brake is applied. This is mounted in any suitable way and provided with any sort of lever for carrying it toward or from the wheel, not necessary to be shown or indicated herein.

C is the cover-plate, by which the interior of the shell is closed and the parts therein protected.

D is the brake-shoe, removable from the shell and intended to bear against the wheel of the vehicle.

The perforations in the side walls of the shell, through which the shaft projects, are formed in bosses or enlargements *a a*, extending to the interior, so as to afford enlarged bearings or wearing-surfaces for the shaft. The shaft is reduced in diameter, as at *b*, within the shell, leaving a hub, *c*, also within the shell. The shell is held against accidental displacement from the shaft by suitable means, such as a nut, *d*.

E is the spring which maintains the brake-block in proper position upon the shaft, so that the shoe will not accidentally wear against the wheel, but so that it may be brought into fair and proper bearing thereon when required for use and clear therefrom at the instant when the brake-shaft is retracted. This spring is made of steel or brass wire, either flat or round, the longer end, *e*, extending to the upper part of the interior of the shell, the coils of sufficient number encircling the reduced portion *b* of the shaft, and the shorter

end, *f*, being made to engage with the hub *c* or larger part of the shaft adjacent to the portion *b*, but within the shell. To make this engagement simple and secure, the end *f* is inclined slightly and two or more channels or notches, as *g g*, are cut in the shaft to receive the end *f*. Two of these notches are preferably provided, so that if the spring loses its power, or for any other reason it be desired to increase the tension of the spring, the end *f* may be transferred from one notch to the other. Of course more of these notches will provide for greater range of variations in the tension. The coiled portion of the spring is larger in interior diameter than the portion *b* of the shaft, as best shown in Fig. 6, so that the spring will have ample opportunity to act under all circumstances, and so that accumulations of ice or other matters between the shaft and spring cannot impede its proper and efficient workings. To prevent side movements of the spring upon the shaft, the interior of the shell is supplied with projections, as *h h*, at proper points for the end *e* to bear against. Two of these bearing points or projections are shown, because they are cast in the shell, which is of form for either a right or left brake-block. If the shaft be inserted from the opposite side of the block, which may be done by properly drilling the bearings, then the spring is sustained by the point *h'*, instead of *h*, as illustrated.

The spring is first located in the shell, the shaft then introduced so as to pass through the coiled portion, the end *f* located in the proper notch, and the holding-nut *d* turned down. This is all that is necessary to do in order to secure the proper adjustment of these parts, the shell or box being open throughout for access. The cover-plate *C* is then located and held in place by any screws or bolts, as *i*. The back of the shell being thin, I prefer to cast one or more bosses, as *a*, upon it to receive the end of screw or screws *i*.

The lower end of the plate *C* rests upon projections, as *k k*, between which the interior of the shell may be drained, as will be readily understood. The lower end of the shell (covered by the brake-shoe) is channeled or furrowed, as at *l l*, so that any drainings from beneath the lower end of the cover-plate may pass down between the lower end of the shell and the back of the shoe. This keeps the interior dry and clean.

The brake-shoe in some forms is made of wood and in some of rubber. However made it is received by the margins *m m*, which are inclined inwardly to correspond with the inclined edges of the shoe, which is slipped in at the top (the top being a trifle wider than the bottom) and wedged down to a firm seating. It may be held in place by any bolt, as *n*, passing through the shell and preferably having a nut upon the back of the shell.

The shoe shown in the drawings is made of iron, and for this reason is made to extend

above the top of the shell, and has an overhanging ledge, *D*, which engages with the top of the shell and prevents any possibility of the shoe being forced down. To stiffen the lower end of the shell it is provided with marginal ribs *o o* on the exterior. The shaft is provided with a tongue or projection, *p*, and the shell with two projections or stops, as *q q*, the purposes of which are to prevent too great movement of the shell upon the shaft in either direction. At the upper end of the shell is a packing of rubber or cork, *r*, against which the cover-plate rests. This is to prevent entrance of water or foreign substances between the joints at the top.

The improved block is simple, easy to make, to mount, and to apply, and admirably answers the purpose or object of the present improvements.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a brake-block, the combination, with the shell journaled upon the shaft, and the shaft, of a coiled wire spring located in said shell, bearing upon the shell at one end and engaging with the shaft at the other, substantially as shown and described.

2. In a brake-block, the combination, with the shell, of the shaft having a reduced portion and a hub located within the shell, and a coil-spring mounted upon the reduced portion and engaging with the hub, substantially as shown and described.

3. In a brake-block, the combination, with the shell journaled upon the shaft, and the shaft, of a coiled wire spring located in said shell, bearing upon the shell upon one end and engaging with the shaft at the other, the shell being provided with a projection for holding the spring against accidental disarrangement, substantially as shown and described.

4. In a brake-block having a cover, as explained, the shell provided with drain-channels extending below the lower margin of the cover, substantially as and for the purposes set forth.

5. In a brake-block, the combination, with the shell joining upon the shaft and provided with an inclosed spring, of the brake-shoe extending above the top of the shell and bearing thereon, substantially as shown, and for the purposes set forth.

6. In a brake-block, the combination, with the shell and removable cover, of the packing-strip to close the joint at top, substantially as and for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of two witnesses.

MORGAN POTTER.

Witnesses:

MILTON E. CURTISS,
E. E. STRONG.