(No Model.)

P. N. FRENCH.

AXLE BOX LID.

No. 522,050. Patented June 26, 1894.

FIG. 1.

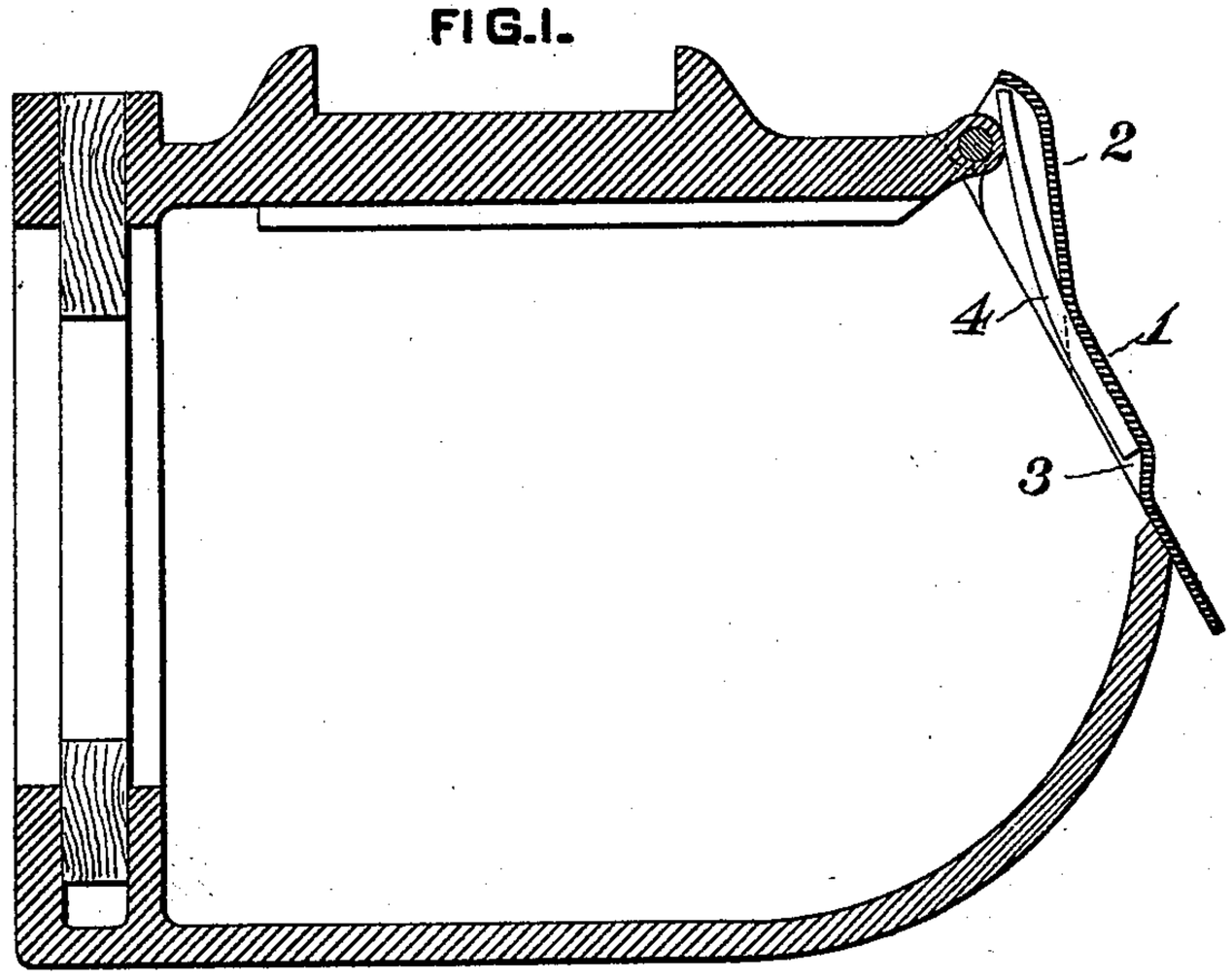


FIG. 2.

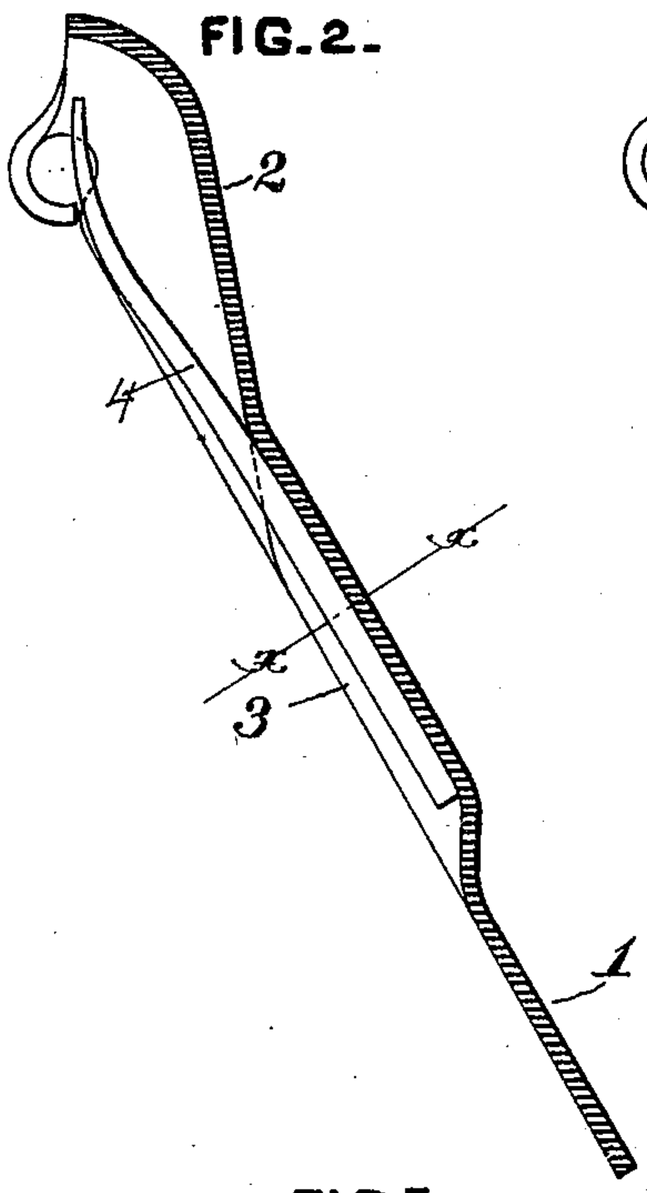


FIG. 3.

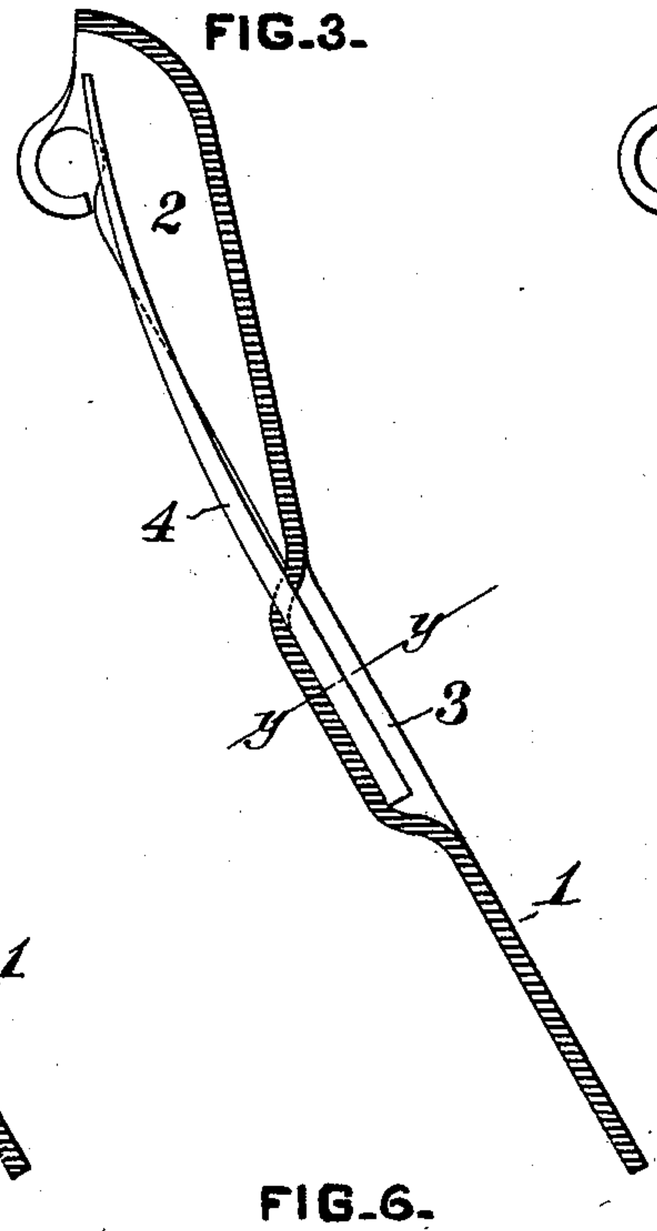


FIG. 4.

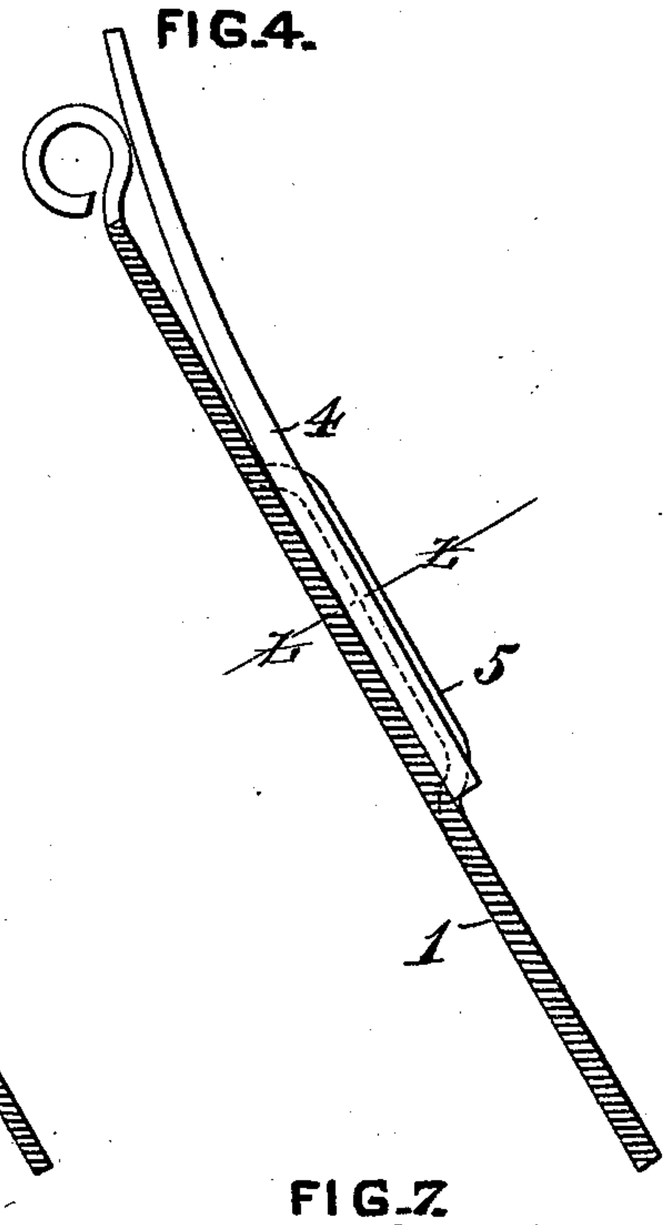


FIG. 5.

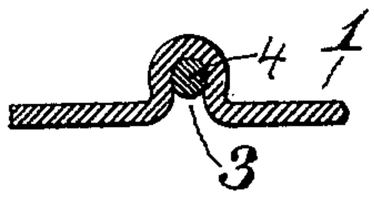


FIG. 6.

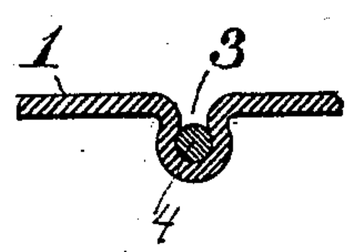
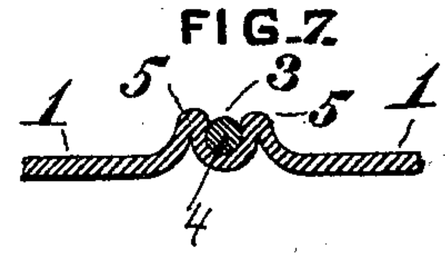


FIG. 7.



WITNESSES:

Dannis S. Wolcott

F. O. Gaither

INVENTOR,

Philo N. French

by George H. Christy Atty.

THE NATIONAL LITHOGRAPHING COMPANY,
WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

PHILO N. FRENCH, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR TO THE MORRIS BOX LID COMPANY, OF SAME PLACE.

AXLE-BOX LID.

SPECIFICATION forming part of Letters Patent No. 522,050, dated June 26, 1894.

Application filed April 26, 1893. Serial No. 471,934. (No model.)

To all whom it may concern:

Be it known that I, PHILO N. FRENCH, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented or discovered certain new and useful Improvements in Axle-Box Lids, of which improvements the following is a specification.

The invention described herein relates to certain improvements in the manner of securing the springs for closing axle box lids, in position on the lids, and, generally stated, the invention consists in the construction and combination, substantially as hereinafter described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a sectional elevation of a car axle box having a lid embodying my improvement, applied thereto. Fig. 2 is an enlarged sectional view of the lid shown in Fig. 1. Figs. 3 and 4 are similar views, illustrating certain modifications, and Figs. 5, 6 and 7 are transverse sections on the lines *x*, *x*, *y*, *y*, and *z*, *z*, Figs. 2, 3 and 4, respectively.

In the practice of my invention the lid 1 which is formed of wrought iron or steel, may have a swell or enlargement 2 covering the knuckles on the axle box, as shown in Figs. 1, 2 and 3, or may be made flat, as shown in Fig. 4.

In the construction shown in Figs. 1 and 2, a groove 3 is formed in the lid by striking up a portion of the metal at the base of the enlargement, of a width approximately equal to the transverse width or dimensions of the portion of the spring 4 to be held therein. This groove is preferably formed simultaneous with the swell or enlargement of which it is a narrow prolongation. One end of the spring is placed within the groove and the walls of the latter are then pressed tightly around it, thus securely fastening the spring in place. In lieu of so swaging the metal, in the formation of the groove, as to produce a rib on the outer face thereof, the metal may be swaged in the opposite direction, as shown in Figs. 3 and 6. When so formed, it is necessary to form an opening in the end wall of the groove for the insertion of the spring into the groove, as shown in Fig. 3.

In the construction shown in Figs. 3 and 6, the spring is held in place by closing the walls of the groove against the spring.

In Figs. 4 and 7, the groove is shown as formed by two ribs 5, struck up from the body of the lid. The spring is held in position by pressing the ribs toward each other against the spring.

It has heretofore been customary to secure the lid spring in place by forming an opening in the lid through which the spring is passed, one portion of the spring projecting in under the lid and the other portion lying loosely in a groove in the outer face of the lid. This construction is objectionable, as the spring is easily displaced and lost, and also because the opening in the lid affords opportunity for the escape of oil and the entrance of dust into the axle box.

In the construction shown in Figs. 1, 2 and 4, the lid is imperforate; hence no oil can escape and in the construction shown in Figs. 3 and 6, the walls of the groove are closed so tightly around the spring, that the latter is not only held tightly in place, but also all escape of oil or the entrance of dust is prevented.

An additional advantage derived from securing the spring in the manner described, consists in the strengthening of the lid by the ribs produced in the formation of the groove.

My improvement is designed to overcome a great objection to the kind of axle box lid to which my improvement is applied, and that is the loss of springs. The springs are loosely inserted in shallow pockets formed in the lids, so that they soon jar out and are lost. In the practice of my invention the groove is so formed that the spring fits tightly therein and as an additional security, the walls of the groove are so closed around the spring as to preclude its accidental displacement.

I claim herein as my invention—

1. The combination of an imperforate axle box lid formed of wrought iron or steel and having a groove in its under side, and a closing spring having a portion thereof arranged within the groove, the walls of the latter being pressed tightly around the spring, substantially as set forth.

2. The combination of an axle box lid having parallel ribs formed therein and a closing spring having a portion thereof arranged in the groove formed by the ribs, the latter being pressed tightly against the spring so as to clamp the same in position, substantially as set forth.

In testimony whereof I have hereunto set my hand.

PHILO N. FRENCH.

Witnesses:
DARWIN S. WOLCOTT,
HILARY B. BRUNOT.