

A. LAW.
EXPANSION BOLT.
APPLICATION FILED DEC. 31, 1910.

987,381.

Patented Mar. 21, 1911.

Fig. 1.

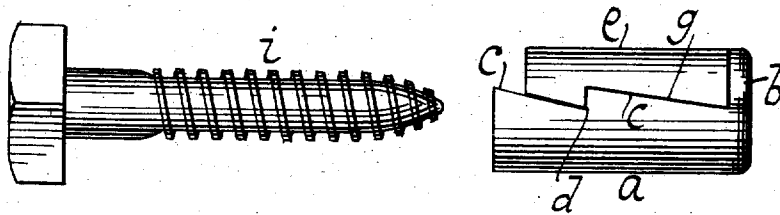


Fig. 2.

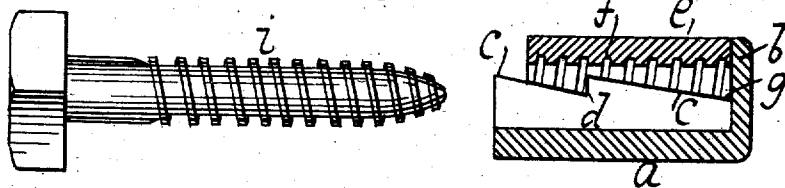


Fig. 3.

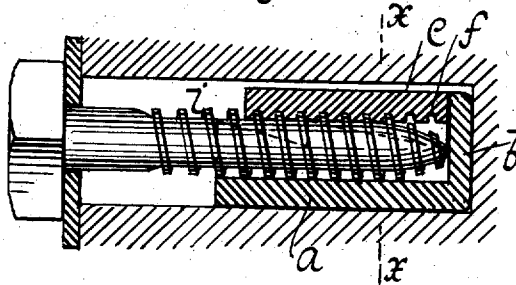


Fig. 4.

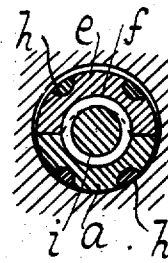


Fig. 5.

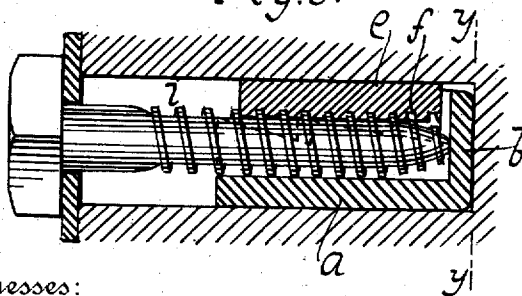
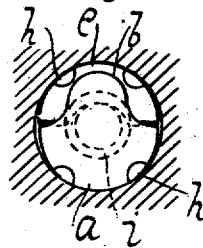


Fig. 6.



Witnesses:
William Miller
Christian Ametadt

Inventor
Albert Law
By his Attorneys
Haufler & Landau

UNITED STATES PATENT OFFICE.

ALBERT LAW, OF BROOKLYN, NEW YORK.

EXPANSION-BOLT.

987,381.

Specification of Letters Patent.

Patented Mar. 21, 1911.

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To all whom it may concern:

Be it known that I, ALBERT LAW, a citizen of the United States, residing at Brooklyn, county of Kings, State of New York, have invented new and useful Improvements in Expansion-Bolts, of which the following is a specification.

This invention relates to expansion bolts of the kind whereby a bolt can be locked in a recess formed in a wall; the device is designed with as few parts as possible and gives positive grip in the recess.

The device consists of two tubular shells, one of the shells being interiorly threaded while the other has a smooth bore; the threaded shell is adapted when the bolt is operated to move in a rectilinear path on the bolt.

The two shells have inclined wedge shaped faces the threaded shell when moving along the bolt also moves along the inclined face of the abutting shell and thus expands the shells to give firm grip on the interior of the recess. The smooth bored shell is provided with a toe formed integral with the shell to engage the lower end of the bolt and thus prevent the shell when the bolt is operated from moving toward the head of the bolt.

The novel features of the invention are more fully described in the following specification and claims and illustrated in the accompanying drawing in which:

Figure 1 represents a side elevation of an expansion bolt embodying this invention. Fig. 2 is a vertical longitudinal section thereof. Fig. 3 is a similar section showing the parts inserted in a recess. Fig. 4 is a section along line *x x* Fig. 3. Fig. 5 is a vertical section showing the parts in a different position from Fig. 3. Fig. 6 is a section along line *y y* Fig. 5.

In this drawing the letter *a* designates a tubular shell which has a smooth bore and is provided with a toe *b* formed integral with the tube. The said shell has inclined wedge shaped walls *c* and a shoulder *d* to form a double incline along the length of the shell. Coacting with this shell is a shell *e* having an internal screw thread *f* and provided with wedge shaped walls *g* to correspond to

the walls of the said tube *a*. Each of the shells has a series of grooves formed in the periphery of the tubes of suitable shape to hold a packing of lead *h* or similar soft metal or material.

A threaded bolt *i* is adapted for insertion into the tubular shells. The bolt when inserted into the tubular shells engages the threaded interior of the shell *e* until the lower end of the stem of the bolt strikes on toe *b* of the smooth bored shell thus preventing movement of the latter shell longitudinally along the bolt. Then in order to wedge the shells tightly into a recess the bolt is again turned and the shell *e* moves toward the head of the bolt while the inclined walls *g* move along the corresponding walls *c* thus moving the shell *a* away from the axis of the bolt thus wedging the shells in the said recess and locking the bolt in the shells.

All parts of the device are accessible and the said parts can be readily galvanized without marring or injuring the screw threads.

I claim:

1. A device of the kind described, comprising two tubular shells having corresponding wedge faced walls, one of the shells having a screw thread formed in the interior of the shell, the other shell having a smooth bore and provided with an integral toe portion, a bolt to engage the threaded interior of the shell while the lower end of the bolt is adapted to coact with the toe portion of the smooth bored shell and prevent longitudinal movement of the shell, said bolt when operated being adapted to move the threaded shell in a rectilinear path longitudinally along the bolt and wedge the shells in the recess.

2. A device of the kind described, comprising two tubular shells having corresponding wedge faced walls, one of the shells having a screw thread formed in the interior of the shell, the other shell having a smooth bore and provided with an integral toe portion, a series of grooves formed in the periphery of the shells to hold packing material, a bolt to engage the threaded interior of the shell while the lower end of the

bolt is adapted to coact with the toe portion of the smooth bored shell and prevent longitudinal movement of the shell, said bolt when operated being adapted to move
5 the threaded shell in a rectilinear path longitudinally along the bolt and wedge the shells in the recess.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

ALBERT LAW.

Witnesses:

HENRY HERZ,

CHRISTIAN H. CLINSTAEDT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
