

June 30, 1925.

1,544,331

N. L. MALMGREN

WEDGE

Filed May 2, 1924

Fig. 1.

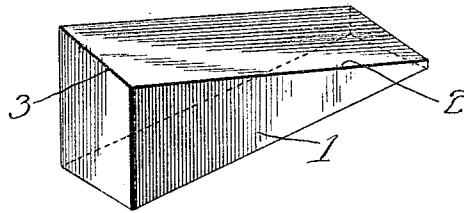


Fig. 2.

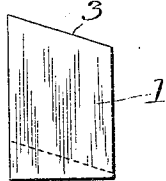
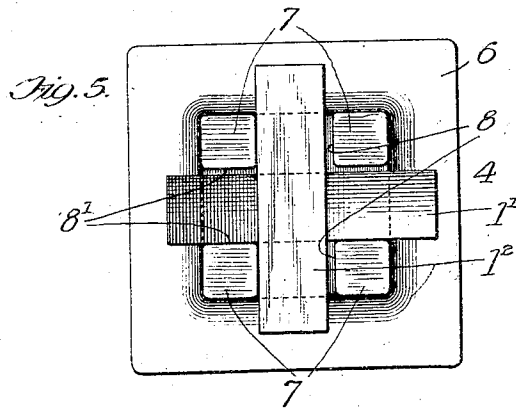
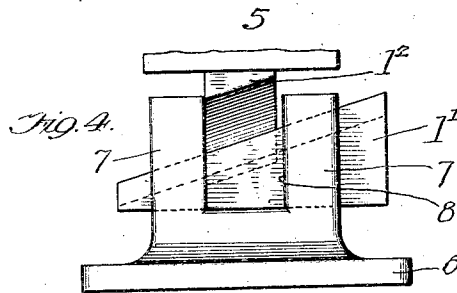
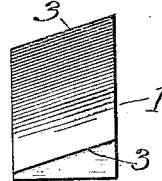


Fig. 3.



Witness
Martin H. Olsen.

Inventor
Nels L. Malmgren
By *[Signature]*
Atty.

Patented June 30, 1925.

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UNITED STATES PATENT OFFICE.

NELS L. MALMGREN, OF CHICAGO, ILLINOIS.

WEDGE.

Application filed May 2, 1924. Serial No. 710,694.

To all whom it may concern:

Be it known that I, NELS L. MALMGREN, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented an Improved Wedge, of which the following is a specification.

This invention relates to wedges.

The object of the invention is to provide wedges which, under contemplated conditions of use will be practically self-locking when subjected to usual stresses tending to cause slipping and loosening thereof.

To attain this object, wedges embodying my invention and improvements comprise wedges the wedging surfaces of which are inclined both lengthwise and transversely relative to the plane of the back of the wedge—preferably at the same angles—designed to be used in pairs disposed at an angle to each other—preferably at right angles. Thus, when a pair of wedges is utilized in association with a structure affording rigid abutments at the sides of the transverse wedging surfaces thereof adjacent to the thin or smaller ends of said wedges formed by the longitudinal wedging surfaces, it is obvious that when the wedges are forced endwise, components of force will be produced tending to impart coincident lateral movement to one or both of said wedges which, if continued, will bring a side of one or both thereof into strong frictional engagement with the abutments adjacent to the thin or smaller ends of the longitudinally inclined wedging surfaces thereof, respectively, which will effectually present said wedges from working loose under usual conditions.

My invention also comprises the various other features and details of construction hereinafter described and claimed.

In the accompanying drawings, in which my invention is fully illustrated,

Figure 1 is a perspective view of a wedge embodying my invention and improvements.

Figures 2 and 3 are views of opposite ends thereof.

Figure 4 is a side view showing a pair of my improved wedges assembled for use in a supporting base affording suitable lateral abutments; and

Figure 5 is a top plan view thereof.

Describing a wedge embodying my invention and improvements with particular reference to Figs. 1 to 3 of the drawings, 1 des-

ignates the wedge, the wedging surface of which is inclined both longitudinally, as shown at 2, and transversely as shown at 3 relative to the plane of the back of the wedge. My improved wedges are designed to be used in pairs disposed at an angle to each other—preferably at right angles—in association with a structure which affords lateral abutments at the sides thereof adjacent to the thin or entering ends of the longitudinal wedging surfaces of said wedges, respectively, whereby when said wedges are forced endwise, the transverse wedging surfaces thereof will produce components of force tending to impart lateral movement to said wedges towards the thin or entering end of the other wedge which, if continued, will bring a side of said wedge into strong frictional engagement with the abutment adjacent thereto.

For purposes of clear and definite illustration, I have, in Figs. 4 and 5 of the drawings, shown a pair of my improved wedges designated 1', 1², respectively, in association with a base portion designated as a whole 4, as applied in use for supporting a weight, indicated diagrammatically at 5, Fig. 4, which may typify any kind of a load to be raised or supported by said wedges.

The base portion 4 consists of a lower portion or base proper 6 formed on which are upwardly extending lugs or projections 7, which define grooves or slots 8, 8' which preferably extend at right angles to each other and in which the wedges 1', 1² are confined, the lower wedge 1' being shown seated on the bottom of the groove 8 and the wedge 1² being seated upon the wedge 1' with their wedging surfaces in contact.

The slots or grooves 8, 8', are slightly wider than the wedges 1', 1².

The wedges 1', 1² are shown supporting a weight 9, indicated diagrammatically, and which may typify any kind of load sustained by said wedges.

With wedges constructed and applied as described, it is obvious that when said wedges are forced endwise either to force them in or out, the laterally inclined surface 3 of each wedge, acting on the longitudinally inclined surface 2 of the other wedge will produce components of force tending to impart coincident lateral movement to said wedges towards the thin or entering end of the other wedge which, if continued, will bring the sides of said

wedges respectively adjacent to the small end of the other wedge, into strong frictional engagement with the lugs or projections 7 on the base 4, which will effectively prevent said wedges from becoming loose under any stresses to which they will be subjected in ordinary use.

It will be understood that the base 4 merely exemplifies any structure which affords lateral abutments for wedges applied in the manner shown and described, adapted to prevent said wedges from working loose. I do not, therefore, desire to limit myself to the particular structure or application shown, but claim the use of wedges embodying my invention and improvements in connection with any structure to which it may be applied in manner to produce the results contemplated.

I claim

1. Wedges, each comprising a plane wedg-

ing surface which is inclined both lengthwise and transversely relative to the plane of the back of the wedge, designed to be used in pairs disposed at an angle to each other with their wedging surfaces in contact.

2. Wedges as specified in claim 1, in which the corresponding wedging surfaces of different wedges are inclined at the same angles.

3. Wedges as specified in claim 1, in which the angles of inclination of the wedging surfaces are the same both longitudinally and transversely.

4. Wedges as specified in claim 1, which, in use, are designed to be disposed at right angles to each other.

In witness that I claim the foregoing as my invention, I affix my signature this 29 day of April, A. D. 1924.

NELS L. MALMGREN.