

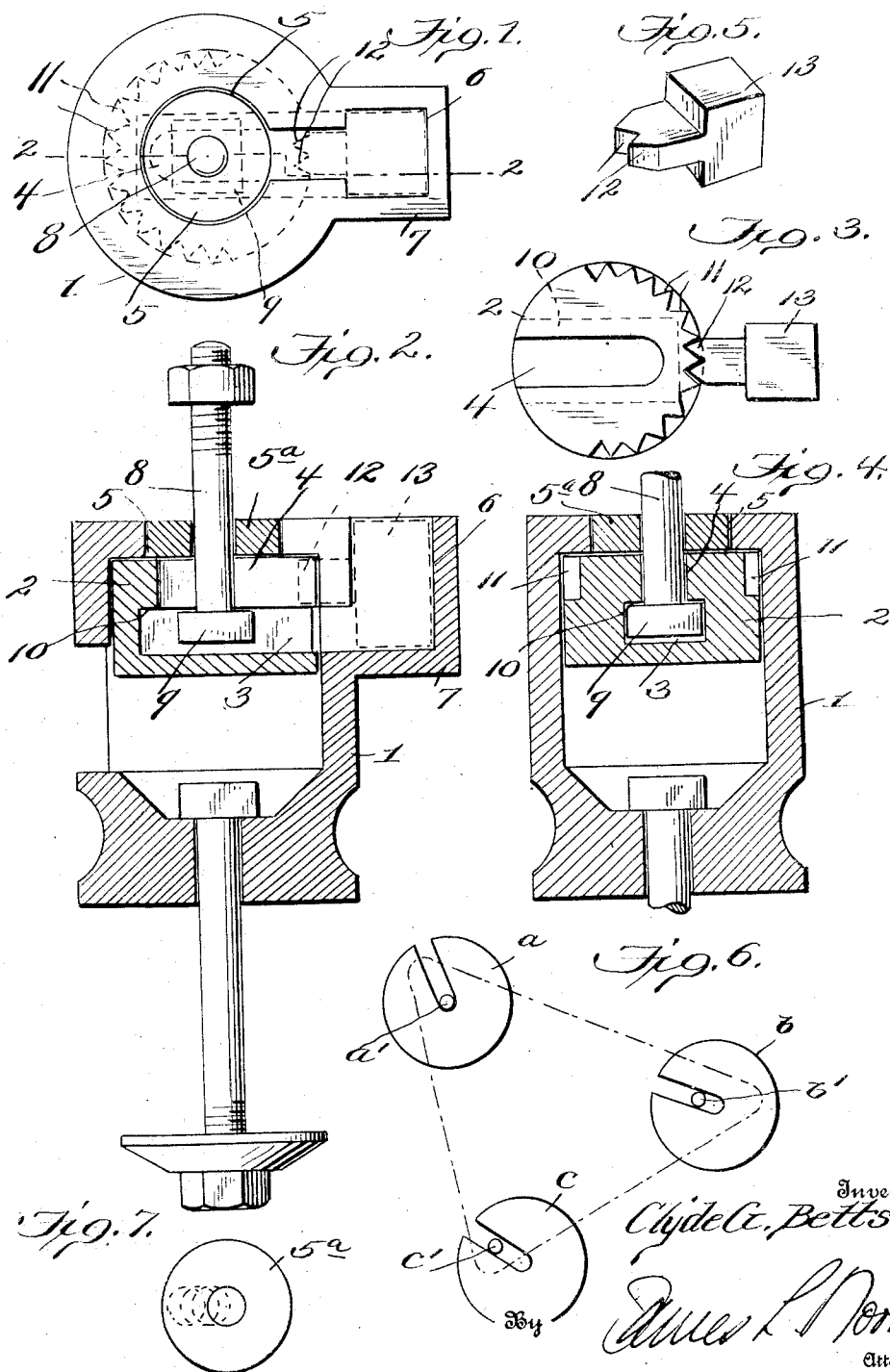
July 26, 1927.

1,637,210

C. G. BETTS

ANCHOR BLOCK

Filed July 27, 1926



Inventor
Clyde C. Betts
James L. Norris
Attorney

UNITED STATES PATENT OFFICE.

CLYDE G. BETTS, OF WARREN, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO LOUIS J. BETTS, OF WARREN, PENNSYLVANIA.

ANCHOR BLOCK.

Application filed July 27, 1926. Serial No. 125,278.

This invention relates to anchor blocks and has for one of its objects the provision of means adapted to be fixedly embedded, as in concrete, with which an anchor bolt or the like interengages, the construction of said anchor block being such as to permit translatory movement of said bolt in all lateral directions, enabling it to assume any of an infinite number of positions within the range prescribed by the dimensions of the anchor block, so that it may be brought into registry with apertures or other suitable securing features on the legs or bases of pieces of machinery or other devices which are to be anchored.

The advantage of this construction is that absolute accuracy is not essential in the emplacement of the anchor blocks, it being necessary only that the blocks be positioned within the wide limits of tolerance permitted by the lateral movements of the bolt. This makes it practicable for the employment of unskilled labor, unaccustomed to work with precision, for the installation of the anchor blocks, and it also adapts a single arrangement of anchor blocks to the anchoring of different pieces of machinery, the bolt apertures of which may not be spaced exactly to the same template.

Another object of the invention is the provision of means for locking the anchoring means in any determined position.

Other objects of the invention will appear as the description of the following illustrative embodiment thereof proceeds.

In the drawings:—

Figure 1 is a plan view of the anchor block.

Figure 2 is a side elevation partly in section taken along the line 2—2 of Figure 1.

Figure 3 is a plan view showing one of the elements of the anchor block turned to a locked position relative to the key.

Figure 4 is a sectional view taken at right angles to the view shown in Figure 2.

Figure 5 is a perspective view of the key.

Figure 6 is a plan view showing diagrammatically the cooperative effects of several anchoring blocks in fixing the position of the bolts.

Figure 7 is a plan view of one of a series of washers the position of the holes in others of the series being indicated by dotted circumference.

Referring now in detail to the several

figures, the numeral 1 represents a housing which is preferably cast, and is designed to be embedded in a mass of concrete. The upper face of said housing is by preference, made flush with the surface of the concrete. A rotatable member 2 is within the housing, the same also being a casting and in the embodiment of the invention, as shown, the housing is cast around the rotatable member so that the two are inseparable. It is conceivable, however, that these elements may be made in any other desired manner and that the rotatable member may be inserted into the housing after it has been constructed. The rotatable member is formed with an open sided chamber which, in describing the same can be differentiated into upper and lower zones, the latter zone comprising an open ended slot 3 of considerable width indicated by the dotted lines in Figure 3, while the upper zone consists of a narrower slot 4 the walls of which overhang the slot 3, forming flanges. Said slots open at one side into an enlarged chamber 6 formed in an off-set portion 7 of the housing.

The anchoring means is, in the present instance, a bolt 8, arranged head downwardly, and the chamber 6 is of such size and shape as to admit the head 9 of said bolt, said head being approximately the width of the slot 3 but wider than the slot 4. The bolt is introduced into the chamber 6, which opens in the upper face of the anchor block, and when the head of the bolt reaches the bottom of said chamber it is moved laterally into the slot 3. The rotatable member 2 may then be turned so as to place the open end of the slot 3 out of registry with the chamber 6, thereby imprisoning the bolt, which cannot escape in an axial direction, being restricted by the flanges 10 formed by the overhanging walls of the slot 4.

The rotatable member is preferably formed with a series of teeth 11 or other similar interlocking devices extending part way round its circumference, which interdigitate with corresponding teeth or interlocking devices 12 on a key 13. Said key is preferably shaped to fit the chamber 6 with the teeth 12 in the zone of the teeth 11 when the key is dropped into place. A portion of the circumference of the rotatable member adjacent the mouth of the slot 4

is preferably left blank, that is to say, without teeth, thereby to prevent the insertion of the key until the rotatable member has turned.

5 It is apparent from the drawing that for every position of circumferential adjustment of the rotatable member 2 the bolt has a rectilinear range of movement equal to the diameter of the circular recess 5, less, of course, the thickness of the shank of the bolt. Said bolt can therefore occupy any of an infinite number of positions within the area of said circular recess.

10 In anchoring a piece of machinery it is customary to secure it by means of at least two and generally by three or more anchor blocks. If the bolts do not align with the bolt apertures in the base of the machinery it is an easy matter, by turning the rotatable members and by shifting the bolts in the slots 4, to cause them to assume proper positions of registry with the apertures which they are to occupy. In Figure 6 is shown a diagram in which the reference characters *a*, *b* and *c* represent the rotatable members of three embedded anchor blocks, the case of said machine being indicated in broken lines, having anchor bolts *a'*, *b'* and *c'* extending through corresponding apertures. As the members *a*, *b* and *c* are rotatable only about their own axes, it is apparent that when they are locked in the position shown, neither the bolts *a'*, *b'* and *c'* nor the machine bed anchored thereby can be shifted in any direction, the bolts binding against the sides of the slots when lateral stress is applied, resisting the tendency of the machine to shift.

A washer 5^a fits freely within the recess in the upper face of the housing 1 and functions to prevent the displacement of the bolt longitudinally of the slot 4. It is particularly useful when less than three anchor blocks are used so that the principle illustrated in Figure 6 cannot be utilized. The washer is selected from a series of washers having apertures of different eccentricity to suit the position of the bolt.

While I have here described what I believe to be a practical and efficient embodiment of my invention, it is clear to those skilled in the art that departure may be made from what is shown and described in the manner of detail, without transcending the scope of the invention.

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

1. An anchor block including relatively movable members, one embracing the other, said members together being provided with a key-hole slot, the wider portion of said slot being in the embracing member and the narrower portion in the embraced member, the walls of said narrower portion being un-

dercut to form a channel having overhanging flanges, communicating with the wider portion of said slot, said embraced member being rotatable within the embracing member to a position in which said channel is out of registry with the wider portion of said key-hole slot.

2. An anchor block including relatively movable members, one embracing the other, said members together being provided with a key-hole slot, the wider portion of said slot being in the embracing member and the narrower portion in the embraced member, the walls of said narrower portion being undercut to form a channel having overhanging flanges, communicating with the wider portion of said slot, said embraced member being rotatable within the embracing member to a position in which said channel is out of registry with the wider portion of said key-hole slot, and means for locking said rotatable member in said position.

3. An anchor block including relatively movable members, one embracing the other, said members together being provided with a key-hole slot, the wider portion of said slot being in the embracing member and the narrower portion in the embraced member, the walls of said narrower portion being undercut to form a channel having overhanging flanges, communicating with the wider portion of said slot, said embraced member being rotatable within the embracing member to a position in which said channel is out of registry with the wider portion of said key-hole slot, and means introduced into the larger part of said slot for locking said rotatable member in said position.

4. An anchor block including relatively movable members, one embracing the other, said members together being provided with a key-hole slot, the wider portion of said slot being in the embracing member and opening in the upper surface thereof, and the narrower portion in the embraced member, the walls of said narrower portion being undercut to form a channel having overhanging flanges, communicating with the wider portion of said slot, said embraced member being rotatable within the embracing member to a position in which said channel is out of registry with the wider portion of said key-hole slot.

5. An anchor block including relatively movable members, one embracing the other, said members together being provided with a key-hole slot, the wider portion being in the embracing member and opening in the upper surface thereof and the narrower portion in the embraced member, the walls of the narrower portion being undercut to form a channel having overhanging flanges, communicating with the wider portion of said slot, said embraced member being rotatable within the embracing member to a position

in which said channel is out of registry with the wider portion of said key-hole slot, and a locking member constructed to interdigitate selectively with a series of interlocking means on said rotatable member.

6. An anchor block including relatively movable members, one embracing the other, said members together being provided with a key-hole slot, the wider portion being in the embracing member and opening in the upper surface thereof and the narrower portion in the embraced member, the walls of the narrower portion being undercut to form a channel having overhanging flanges, communicating with the wider portion of said slot, said embraced member being rotatable within the embracing member to a position in which said channel is out of registry with the wider portion of said key-hole slot, and a locking member introduced into the larger part of said slot constructed to interdigitate selectively with a series of interlocking means on said rotatable member.

7. An anchor block including relatively movable members, one embracing the other, said members together being provided with a key-hole slot, the wider portion of said slot being in the embracing member and the narrower portion in the embraced member, the walls of said narrower portion being undercut to form a channel having overhanging flanges, communicating with the wider portion of said slot, said embraced member being rotatable within the embracing member to positions in which said channel is out of registry with the wider portion of said key-hole slot, and means for locking said rotatable member in any of said positions.

8. An anchor block including a housing formed with a chamber opening through the upper face of said housing, a member rotatable within said housing, the wall of the latter being constructed to retain said rotatable member, said housing being formed with a recess off-set from said chamber and communicating therewith, said rotatable member being formed with an open ended

chamber comprising a lower, relatively wide slot, and an upper slot of less width than the lower slot, having the lateral walls thereof over-hanging the walls of the lower slot, the chamber in said rotatable member being communicable with the off-set recess in said housing through the open side thereof, said rotatable member being formed with external circumferential teeth, and a key fitting said off-set recess, having teeth adapted to interdigitate with the teeth on said rotatable member in any angular position of the latter.

9. The combination of an anchor block and an anchoring bolt including a housing formed with a chamber communicating with a recess formed in the upper face of said housing, a member rotatable within said housing, the wall of said member being constructed to retain said rotatable member, said housing being formed with a recess off-set from said chamber and communicating therewith, said rotatable member being formed with an open sided chamber comprising a lower relatively wide slot, an upper slot of less width than the lower slot, having the lateral walls thereof overhanging the walls of the lower slot, the chamber in said rotatable member being communicable with the off-set recess in the housing through the open side thereof, said rotatable member being provided with external circumferential teeth, said bolt having a shank slidable in the intermediate slot and a head slidable in the lowermost slot but retained therein by said overhanging walls, said bolt head being passable through the off-set recess of said housing, a key fitting said off-set recess having teeth adapted to interdigitate with the teeth of said rotatable member in any angular position of the latter and a washer fitting said recess having an aperture surrounding said bolt.

In testimony whereof I have hereunto set my hand.

CLYDE G. BETTS.