Feb. 4, 1930. J. JORDAN 1,745,696

TRIP BLOCK

Filed Aug. 24, 1927

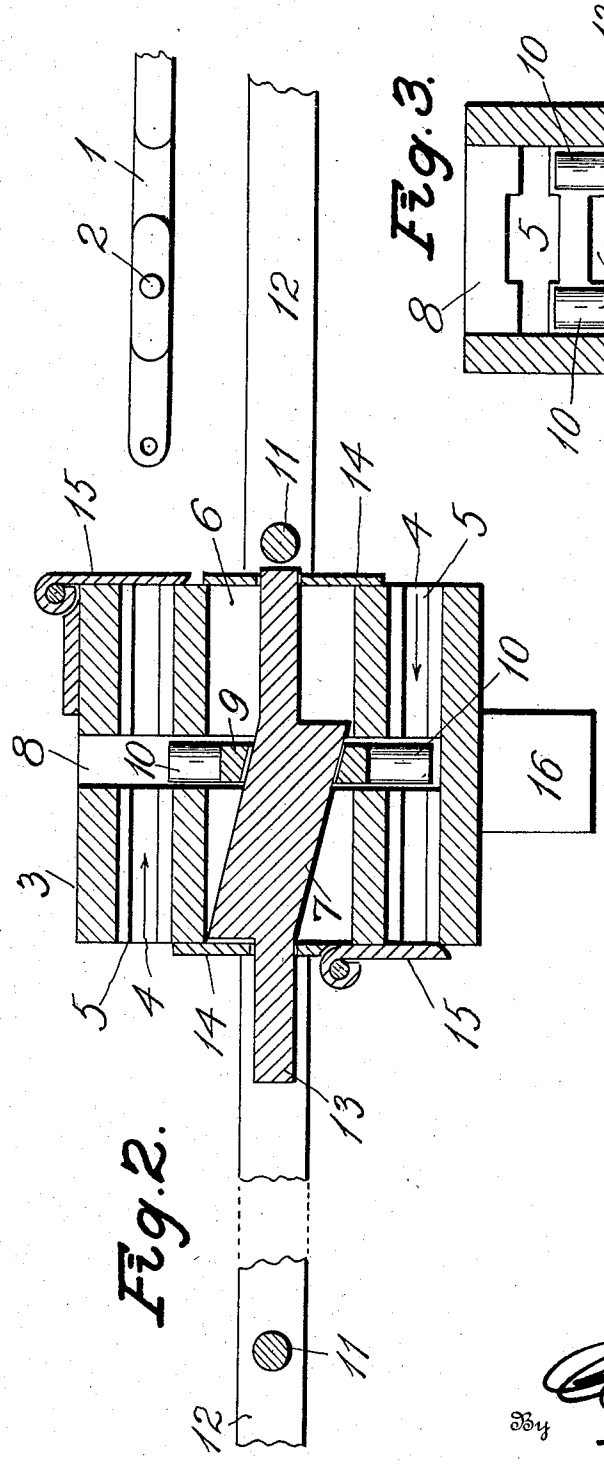


Fig. 2.

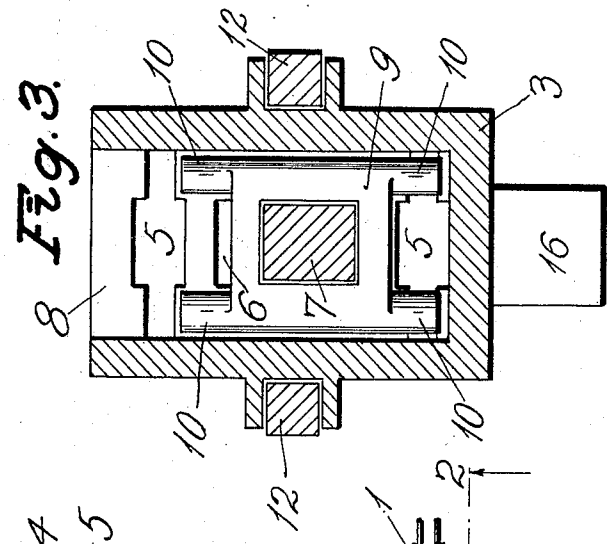


Fig. 3.

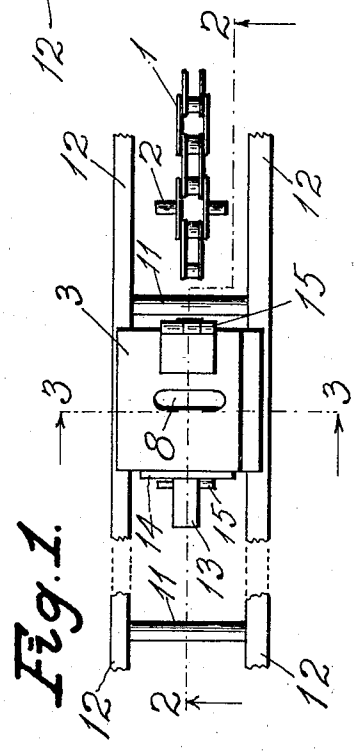


Fig. 1.

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UNITED STATES PATENT OFFICE

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TRIP BLOCK

Application filed August 24, 1927. Serial No. 215,250.

My invention relates to trip blocks, in which a slidingly supported block is engaged by the upper run of a chain, carried along for a certain distance, released, and then carried back by the lower run of the chain.

The objects of my invention are to eliminate the use of a reversible motor, yet reciprocate the block throughout the entire distance between the sprocket wheels; to make provisions for the engagement and release of the block by the chain; and to make provisions for preventing the block from sliding back while the chain is at rest.

I attain these objects with the mechanism, illustrated in the accompanying drawings, in which:

Fig. 1 is a plan view of the entire apparatus.

Fig. 2 is a section through Fig. 1 along the line 2—2.

Fig. 3 is a section through Fig. 1 along the line 3—3.

Similar numerals refer to similar parts throughout the several views.

One of the links of the chain 1 is provided with a lug 2 on each side and driven by a non-reversible motor in the usual manner. The upper and lower run of the chain 1 traverses the block 3 in the direction of the arrows 4 in Fig. 2. The block 3 is provided with suitable chain tunnels 5 for this purpose. In the center of the block 3 between the two chain tunnels 5 is a wedge tunnel 6 for the accommodation of a double acting wedge 7. Traversing all these tunnels 5 and 6 at right angles is a vertical slot 8 with a gate 9 which is raised and lowered by the sliding wedge 7. At the four corners of the gate 9 are vertically extending fingers 10 which extend at the proper time into one of the chain tunnels 5 and remain there until withdrawn again at some other time. Projection and withdrawal of the gate 9 with its fingers 10 is accomplished by the stops 11 which are inserted between the guides 12 for the block 3. These stops 11 press against the tail-pieces 13 which form an integral part of the wedge 7 and, by shifting the gate 9 withdraw the fingers 10 from one chain tunnel and projects said fingers into the other chain tunnel.

The cover plates 14 at both ends of the block 3 serve for the guidance of the tail-pieces 13. In order to lock the block 3 when the movement of the chain is interrupted there is a hinged leaf 15 at the exit end of each chain tunnel 5; this leaf slides readily over the chain 1 when the latter is in motion; but when the chain 1 comes to rest the leaf 15 will drop between the strands of the chain 1 and thus lock the block 3 against movement in either direction.

To explain the operation it may first be assumed that the lugs 2 on the upper run of the chain 1 have just been released by the tail-piece 13 having struck the stop 11 at the right hand side of the block 3; the wedge 7 has been pressed back, the gate 9 has descended, and the fingers 10 in the gate 9 have been projected into the lower chain tunnel 5. The chain 1 now continues on its travel until the lugs 2 on the chain 1 arrive in the lower chain tunnel 5; the clearance here being barred by the fingers 10 on the gate 9, the block 3 must of necessity be carried along until the tail-piece 13 strikes the stop 11 at the left hand side of the block 3. The wedge 7 being held back as the block 3 advances, the gate 9 is lifted, the lugs 2 on the chain 1 are released and the block 3 must rest; the upper chain tunnel 5, however, has become once more obstructed to await the arrival of the lugs 2 on the upper run when the block 3 is carried back to its starting point.

The round or square boss 16 at the bottom of the block 3 serves for the attachment of a link or lever by means of which the reciprocating motion of the block 3 may produce useful results.

Having thus described my invention it will be seen that my objects have been accomplished, and, though I have shown the preferred form of construction, I reserve to myself the right to make minor changes providing I do not contravene the spirit and principle of my invention.

I claim:

1. A trip block having two channels for containing the reversely running reaches of an endless chain; an endless chain adapted to traverse said channels and having a link in said chain with side projecting lugs there-

on, a double acting wedge moving within said block parallel to said chain and a sliding gate operated by said wedge, said gate moving at right angles to the motion of the chain and adapted to alternately engage said reversely running reaches of said chain by contacting with said side projecting lugs.

2. In a trip block adapted to produce reciprocating motion by alternately engaging reaches of an endless chain, a block mechanism, a fixed guide means for said block mechanism, a double acting wedge member within said block mechanism, projecting fingers integral with said double acting wedge member, a gate member operable by said double acting wedge member, and stop members on said guide means adapted to contact with said projecting fingers to cause the wedge to operate said gate.

3. A block slidably mounted between guides, guides, stops mounted between guides, a wedge in the block actuated by the stops, a gate in the block reciprocated by the wedge, a chain traversing the block, the gate arresting the chain and moving the block with the chain toward the stop whereby the wedge withdraws the gate and releases the chain.

4. A block, a chain, the upper and lower run of said chain traversing the block, a hinged leaf attached to the block at the exit end of each chain run, said leaf normally sliding over the moving chain and dropping between the strands of the chain when the movement of said chain is interrupted.

In testimony whereof I affix my signature.

JAMES JORDAN.