

C. OXLEY.

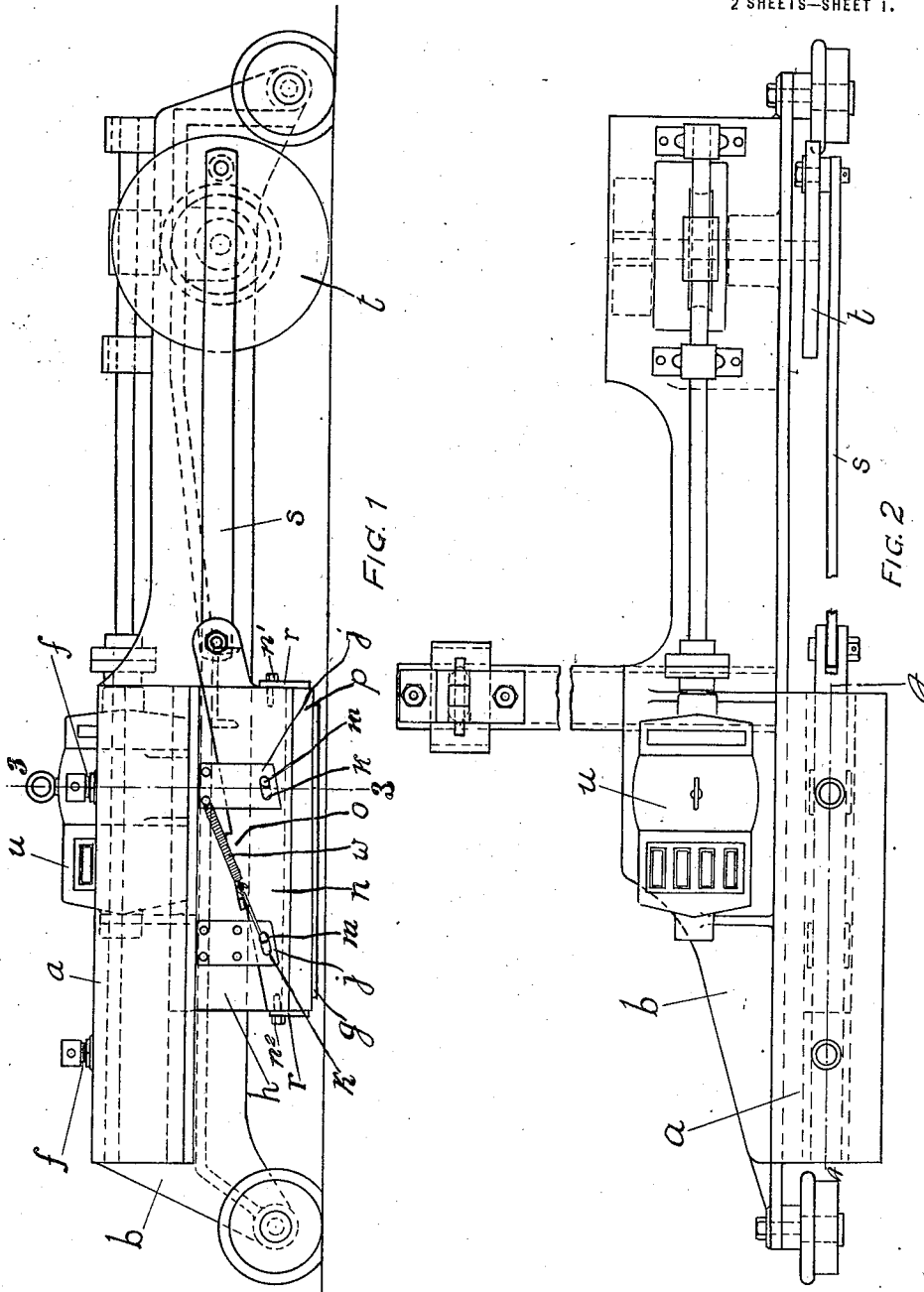
APPARATUS FOR FILING THE SURFACE OF TRAMWAY RAILS AND THE LIKE.

APPLICATION FILED JUNE 13, 1922.

1,437,190.

Patented Nov. 28, 1922.

2 SHEETS—SHEET 1.



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By Wallace White
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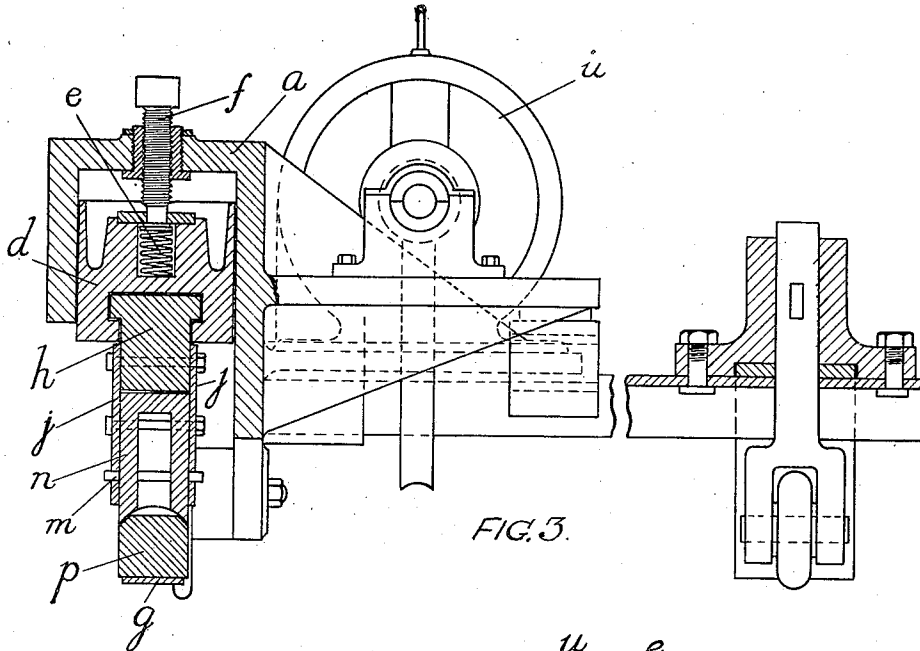


FIG. 3.

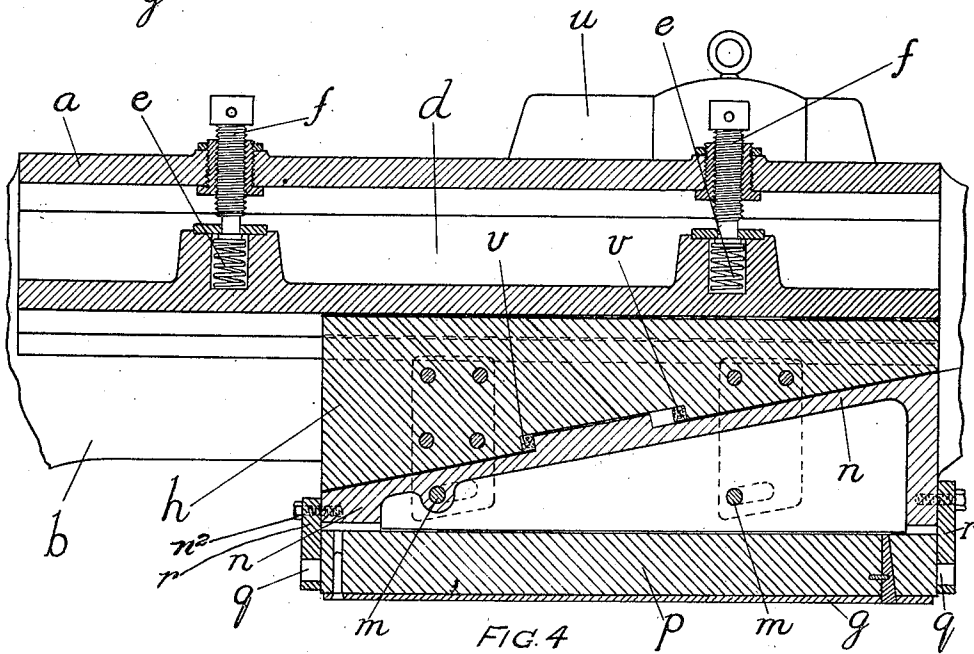


FIG. 4.

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UNITED STATES PATENT OFFICE.

CHARLES OXLEY, OF SHEFFIELD, ENGLAND.

APPARATUS FOR FILING THE SURFACE OF TRAMWAY RAILS AND THE LIKE.

Application filed June 13, 1922. Serial No. 568,002.

To all whom it may concern:

Be it known that I, CHARLES OXLEY, of 101 Montgomery Road, Sheffield, in the county of York, England, a subject of the King of Great Britain and Ireland, have invented new and useful Improvements in or Relating to Apparatus for Filing the Surface of Tramway Rails and the like (for which I have filed application in England January 12, 1921, No. 1,899), of which the following is a specification.

This invention relates to apparatus for filing, shaping or planing the surface of tramway rails and the like, and is especially adapted for reducing or taking away the excess metal where the joint has been welded.

Apparatus made in accordance with this invention comprises a guide, a reciprocating member mounted in the guide, means for feeding the reciprocating member towards the surface of the rail, a block or the like mounted on the reciprocating member and adapted to reciprocate therewith and carry on its under face a file, shaping or planing tool or the like. The connection between the reciprocating member and block permitting a certain loss motion, the arrangement being such, that on the forward motion the block is pressed against the rail, the continuing stroke abrading the surface while on the return stroke the block is lifted from the rail and the continuing stroke permitting the file to return to the initial position without rubbing on the surface and wearing out the abrading surface of the file, and means for adjusting and locking the file to suit varying angles of inclination of the rail surface.

Referring to the drawings filed herewith:—

Fig. 1, Sheet 1, is an elevation of one form of apparatus made in accordance with this invention.

Fig. 2, Sheet 1, is a plan.

Fig. 3, Sheet 2, is a part sectional end elevation on the line 3—3 Fig. 1.

Fig. 4, Sheet 2, is a sectional part elevation on the line 4—4 Fig. 2.

a is a box mounted on the frame b of a trolley or the like immediately over a rail and parallel therewith. In the box is disposed a guide d . Between the box and the guide are springs e and feed screws f so that the height of the guide with respect to the rail and consequently the pressure of the file

g or other tool on the surface of the rail can be regulated. Within the guide is mounted a T shaped reciprocable member h with an inclined under surface; on each side and at each end of the reciprocable member are disposed guide plates j, j each with an inclined slot k . Under the reciprocable member and supported by pins m, m working in the inclined slots is a block n having an inclined surface to couch with the inclined surface of the reciprocable member and a surface parallel with the rail and carrying a file g or abrading tool. The reciprocable member h is provided in its inclined side with an elongated recess, while the block n is provided with a projection o extending into said recess but of shorter length than the recess so as to permit movement of the block relatively to the reciprocable member in either direction until the upper or lower shoulder-forming end of the projection o abuts against the respective end of the recess. The block n is provided with a detachable transversely swivelling base p mounted on trunnions q, q carried in bearings formed by end plates r, r . The end plates r, r carrying the base p are secured to the block n by set screws n^1, n^2 passing through openings in the brackets r and threaded into the ends of the block n , as shown in Figs. 1 and 4 and by reason of the concave under face of the block n and partly curved upper face of the base p provided for the purpose as shown in Fig. 3, the base p carrying the file g can be tilted if desired to suit varying angles of inclination of the rail surface and locked or secured in the desired position by tightening the set screws n^1 and n^2 . The block n is connected by a connecting-rod s to a disk or crank t which is adapted to receive rotary motion either from a motor u as shown or by any suitable power. v, v are pads of rubber to take the shock between the stop-shoulders and the ends of the recess in the reciprocable member.

In operation, assuming the block n to be in its elevated position, that is, with its pins m occupying the higher ends of the slots in the guide plates j , the higher stop shoulder on the projection o of the block will be in engagement with the higher end of the recess in the inclined side of the reciprocable member h , as shown for instance in Fig. 1. During the first part of the rotary motion of the disk t towards the left, the block n ,

by reason of the connecting rod *s*, will be caused to slide relatively to the reciprocable member *h* so that its pins *m* will ride down the inclined sides of the slots until the lower stop shoulder of the projection *o* of the block abuts against the lower end of the recess in the reciprocable member, at which time the file *g* will be in contact with the rail, it being understood that the block *n* is carried into said position very soon after the disk *t* has begun its rotary motion, the continuation of such motion carrying the reciprocable member *h* along with the block *n* until the crank pin of the disk *t* has reached its extreme position at the left of the axis of the disk. The continued or return rotary motion of the disk will then first pull the block *n* so that its pins *m* will ride upward in the slots *k*, thus raising the file out of contact with the rail, and bringing the upper stop shoulder on the block into contact with the upper end of the recess in the reciprocable member *h*, whereupon said member is carried along with the block *n* until the crank pin of the disk *t* arrives at its extreme position at the right of the axis of the disk, as shown in Fig. 1, so that the block *n* is again in its starting position.

This apparatus can be made to machine the rail perfectly level or at an angle to suit the old existing rail by adjusting the swivelling base *p* of the block *n*.

If desired a spring *w* may be attached to one of the guide plates *j* and connected to a pin *m* on the block to ensure same riding up the full extent of the inclined slot *k*, it being understood, of course, that the resistance to movement of the member *h* due to the friction between this member and the guide *d* is greater than the resistance to movement of the member *m* due to the friction between this latter member and the member *h* plus the resistance of the spring *w*.

What I claim and desire to secure by Letters Patent is:—

1. Apparatus for filing, shaping and planing the surface of tramway and other rails comprising a guide, a reciprocating member mounted in the guide, means for feeding the reciprocating member towards the surface of the rail, a block mounted on the reciprocating member and adapted to

reciprocate therewith and carry a tool, the connection between the reciprocating member and block permitting a certain lost motion, the arrangement being such, that on the forward motion the block and tool are pressed against the rail, the continuing stroke engaging the surface while on the return stroke the block and tool are lifted from the rail and the continuing stroke returning the block and tool to initial position without engaging the surface and means for adjusting and locking the tool to suit varying angles of inclination of the rail surface.

2. An apparatus of the class described, comprising a guide, a member reciprocable in said guide, a tool block carried by said reciprocable member, cooperating means carried by said reciprocable member and block whereby the block is movable independently of the reciprocable member, and means for moving said block thereby to reciprocate said member during a portion of the movement of the block.

3. An apparatus of the class described, comprising a guide, a member reciprocable in said guide, a tool block carried by said reciprocable member and adapted to reciprocate therewith and independently thereof, means for reciprocating said block, and cooperating means carried by said reciprocable member and block and adapted to raise the block during its independent reciprocation in one direction and to lower the block during its independent reciprocation in the opposite direction.

4. An apparatus of the class described, comprising a guide, a member reciprocable in said guide, a tool block carried by said reciprocable member and adapted to reciprocate therewith and independently thereof, means for reciprocating said block, and cooperating means carried by said reciprocable member and block whereby the block is reciprocated independently of the reciprocable member during the first part of its reciprocation in either direction and the reciprocable member and block are moved together during the latter part of the reciprocatory movement.

In testimony whereof I have signed my name to this specification.

CHARLES OXLEY.