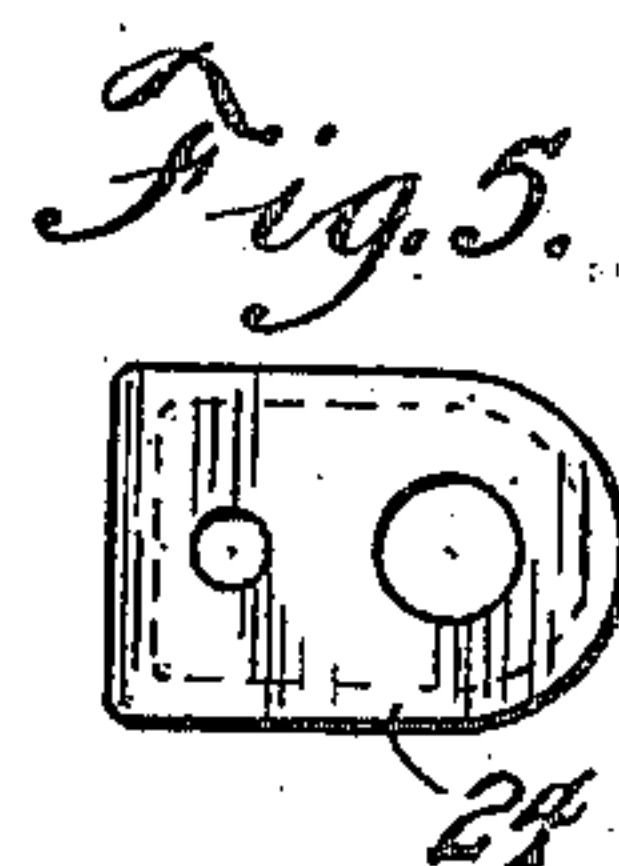
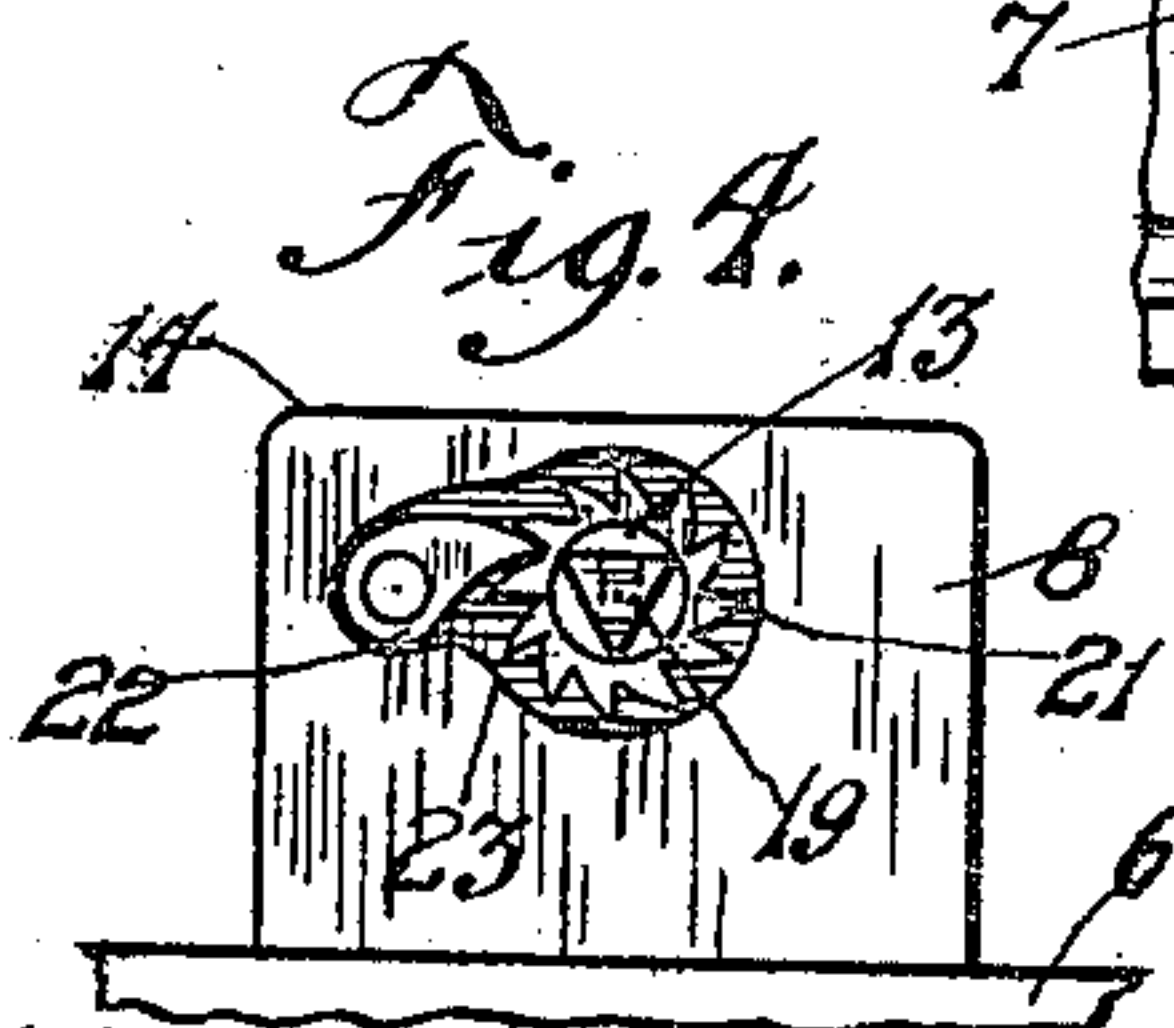
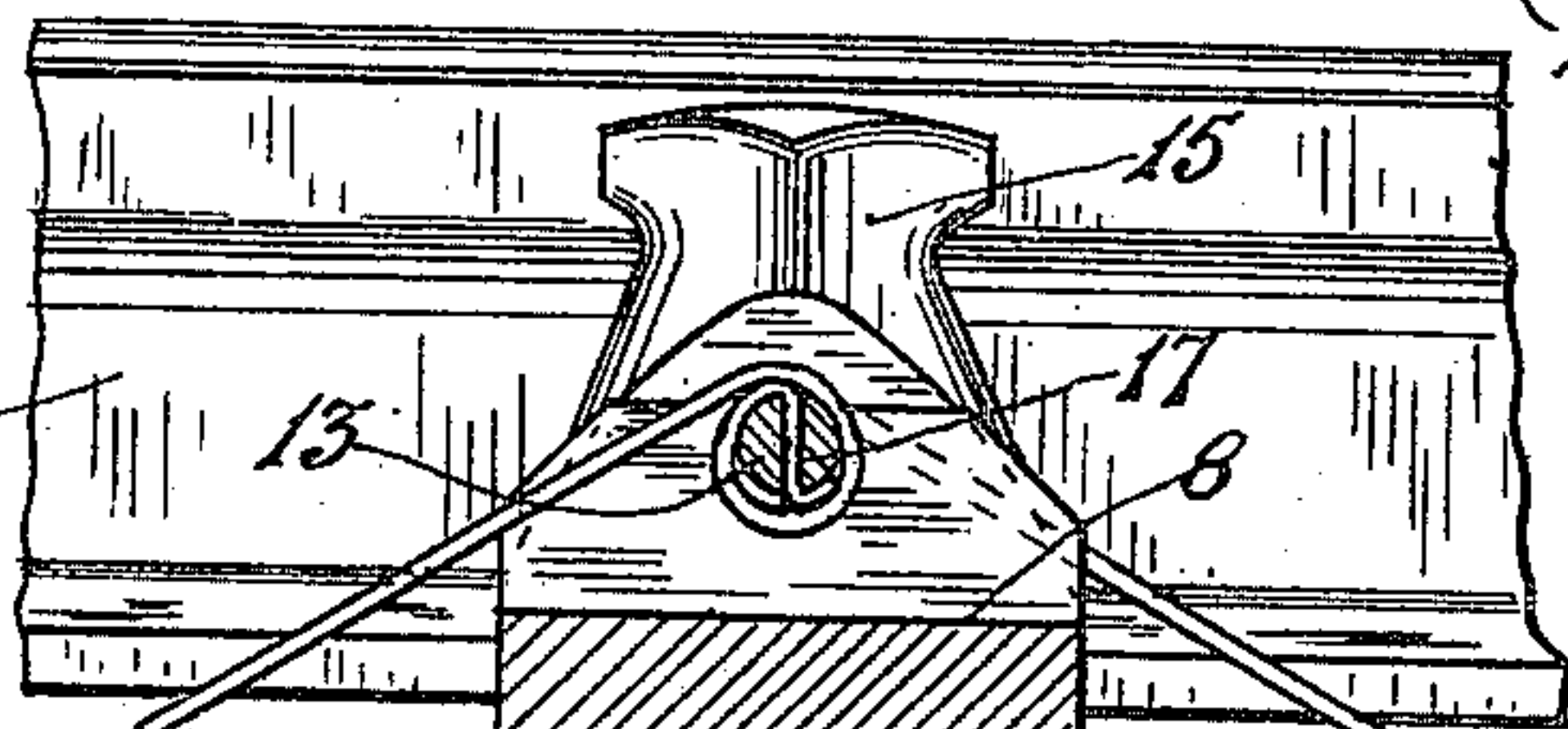
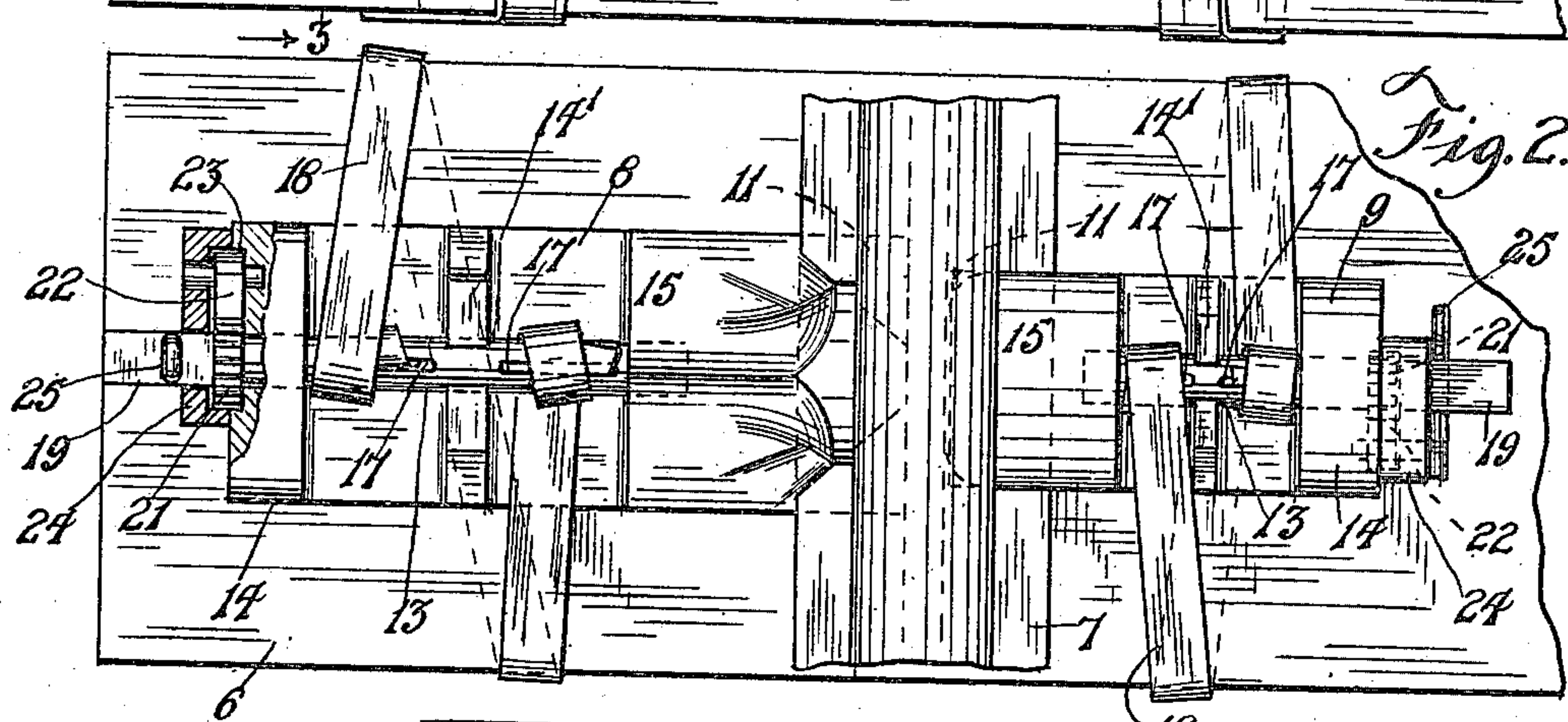
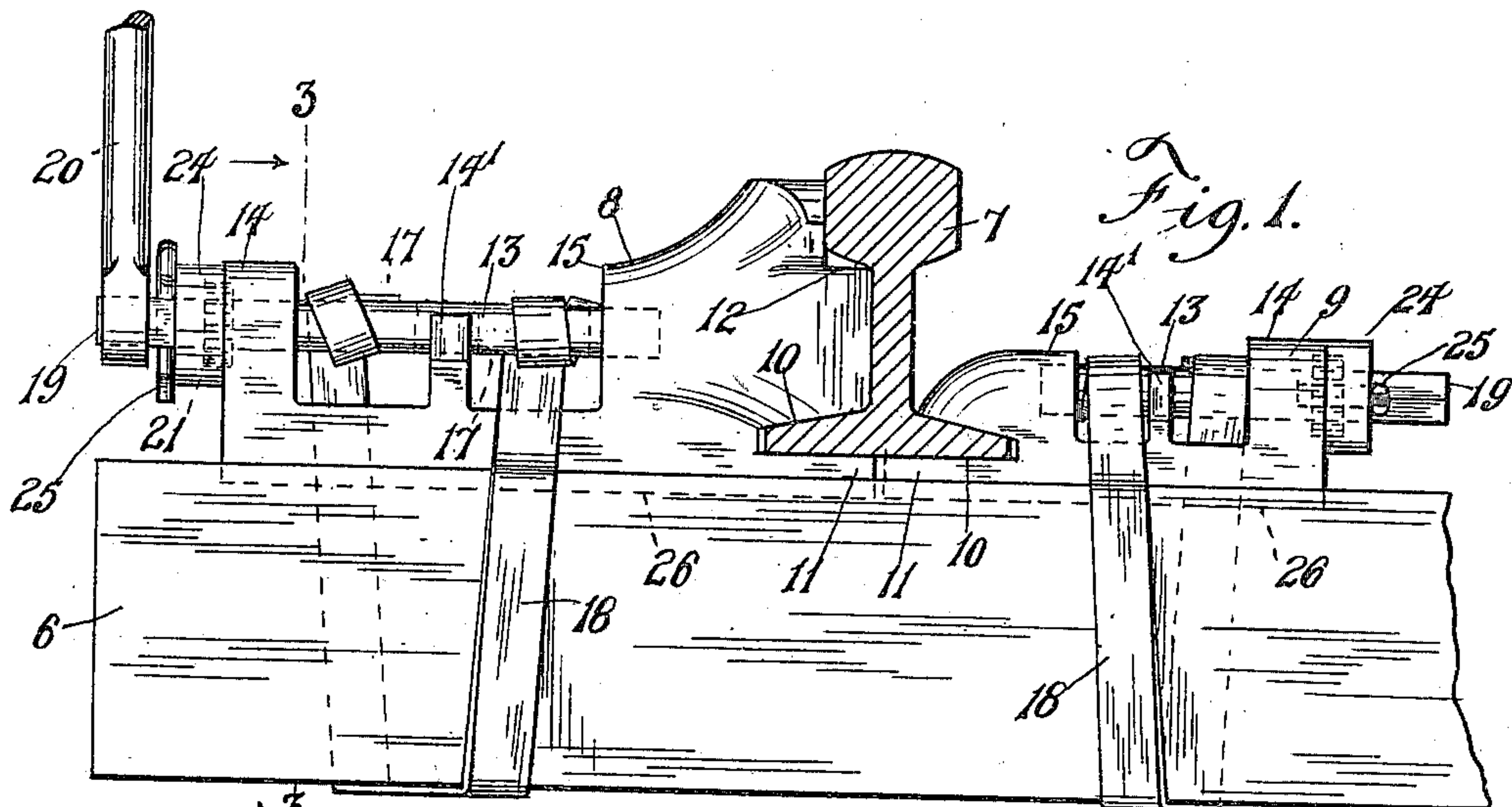


A. S. CHILSEN.
RAIL FASTENER.
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964,213.

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UNITED STATES PATENT OFFICE.

ANFEN S. CHILSEN, OF MERRILL, WISCONSIN.

RAIL-FASTENER.

964,213.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ANFEN S. CHILSEN, residing in Merrill, in the county of Lincoln and State of Wisconsin, have invented new and useful Improvements in Rail-Fasteners, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

This invention relates to improvements in rail fasteners more particularly adapted to fasten railway rails to ties but may also be used advantageously for binding hoops placed around water tanks, etc.

In fastening rails to wooden ties in the ordinary manner spikes are driven into the ties with the spike heads overlapping the rail flanges to bind the rails to the ties and in comparatively a short time the spikes rust and the wood rots away around the spikes and it is necessary to drive the spikes into other portions of the ties to hold the rails thereto. The portion of the tie which may be used soon becomes unfit for use and another tie has to be substituted although a considerable portion of the tie is still sound and useful.

It is one of the objects of this invention to obviate this waste of the ties and provide a rail fastener which is adapted to securely bind the rail to the tie without the necessity of penetrating the tie with the fastening means.

Another object of this invention is to provide a rail fastener which is adapted to prevent the spreading of the rails on the ties and to also serve as a tie plate and present a broad wearing surface to prevent the vibration and chafing action of the rail from wearing or cutting into the surface of the tie.

With the above, and other objects in view, the invention consists of the rail fastener and its parts and combinations, and all equivalents thereof.

In the accompanying drawing, in which the same reference characters indicate the same parts in all of the views: Figure 1 is a transverse section view of a rail showing the improved fastener clamping the rail to a fragment of a tie; Fig. 2 is a plan view of the parts shown in Fig. 1, a portion being broken away to show interior construction; Fig. 3 is a section view taken on line 3—3 of Fig. 1; Fig. 4 is an end view of one of the fasteners, the ratchet wheel and pawl cover being removed; and, Fig. 5 is a view

of the ratchet wheel and pawl cover removed from the fastener.

Referring to the drawing the numeral 6 indicates a fragment of a railway tie adapted to have supported thereon a rail 7. The rail is securely fastened to the tie by means of two fastening members 8 and 9 which are quite similar in construction and differ only in height, the member 9 adapted to hold the inner flange of the rail being of less height to accommodate the flange of the car wheel, while the member 8 which holds the outer flange of the rail extends nearly to the top of the rail and serves as a reinforcement or brace thereto.

Each member is provided with a recessed portion 10 shaped to correspond to the rail flange and into which the foot or lower flange of the rail is adapted to fit and be supported by the flanges 11 which extend beneath the bottom of said rail. The outer member 8 is provided with an upright shouldered portion 12 which is adapted to engage the sides of the rail and serves as a brace. Each member is provided with a short shaft 13 mounted in the upstanding portions 14, 14' and 15 of said members and these shafts are each provided with slots 17 into which are inserted the ends of the metal binding straps 18 adapted to be passed transversely entirely around the tie and when the short shafts are turned, to tightly clamp the members to the ties. The outer ends 19 of the shafts are formed triangular in cross section to accommodate thereon the crank handle 20 which is adapted to turn the shafts to wind up the metal binding straps.

Each shaft is provided with a ratchet wheel 21 fast thereon and pawls 22 pivotally mounted in the recessed portions 23 of the members are adapted to engage said ratchet wheels and hold them in the position to which they have been turned. The pawls and ratchets are covered and protected from being tampered with by covers or caps 24 which are held in place by cotter pins 25 passing through openings provided in the shafts.

The lower surface of each member is provided with ribs 26 which embed in the ties and prevent lateral or longitudinal movement of the members on said ties when securely clamped to the rails and to the ties.

In fastening a rail to the ties the lower flanges of the members are slipped beneath

the lower flange of the rail with the rail flange positioned in the recesses of the members and the members forced tightly against both sides of the rail. The metal binding straps are then passed beneath the ties and the ends thereof are inserted through the slots in the short shafts which are then turned by the crank to tightly bind the members and the rails to the ties, the pawls holding the shafts in adjusted positions. The clamping effect produced by the shafts and straps is sufficient to cause the ribs to sink into the ties and prevent any displacement of the parts after being adjusted in position.

If it is desired to release the members from the ties the pawl and ratchet wheel caps are removed and the pawls are tripped so that the shafts may be unwound to loosen the straps.

From the foregoing description it will be seen that the rails may be securely fastened to the ties without the use of spikes, and the life of the ties greatly prolonged.

The fasteners are simple in construction and inexpensive to manufacture and maintain and are well adapted to perform the functions for which they were designed.

What I claim as my invention is—

1. A rail fastener, comprising a rail engaging member, a revoluble member mounted on the engaging member, a binding strap having the ends thereof connected to the engaging member to bind said member to a support, said strap constructed and adapted to be passed transversely around said support, and means for turning said revoluble member.

2. A rail fastener, comprising a rail engaging member, a revoluble member mounted on the engaging member, means for preventing the rotation of the revoluble member in one direction, a binding strap having the ends thereof connected to the engaging member to bind said member to a support, said strap constructed and adapted to be passed transversely around said support, and means for turning said revoluble member.

3. A rail fastener, comprising a recessed rail engaging member, a shaft provided with a ratchet wheel mounted on the engaging member, a pawl positioned to engage the ratchet wheel and prevent its rotation in one direction, and a binding strap having the ends thereof connected to the shaft to bind said member to a support, said strap constructed and adapted to be passed transversely around said support.

4. A rail fastener, comprising a pair of

recessed-rail engaging members provided with flanges upon which the rail is adapted to rest, shafts provided with ratchet wheels mounted on the engaging members, pawls positioned to engage the ratchet wheels and prevent their rotation in one direction, binding straps having the ends thereof connected to the shafts to bind said members to a support, said straps constructed and adapted to be passed transversely around said support, and means for turning said shafts.

5. A rail fastener, comprising a pair of recessed rail engaging members provided with flanges upon which the rail is adapted to rest and having ribs on the bottom thereof, slotted shafts provided with ratchet wheels mounted on the engaging members, pawls positioned to engage the ratchet wheels and prevent their rotation in one direction, binding straps having the ends thereof inserted through the slots of the shafts to bind said members to a support, said straps constructed and adapted to be passed transversely around said support, and means for turning said shafts.

6. A rail fastener, comprising a pair of recessed rail engaging members provided with flanges upon which the rail is adapted to rest and having ribs on the bottom thereof, slotted shafts provided with ratchet wheels mounted on the engaging members, pawls positioned to engage the ratchet wheels and prevent their rotation in one direction, caps covering said ratchet wheels and pawls, binding straps having the ends thereof inserted through the slots of the shafts to bind said members to a support, said straps constructed and adapted to be passed transversely around said support, and means for turning said shafts.

7. A rail fastener, comprising a recessed engaging member provided with an upstanding shouldered portion positioned to bear against the side of the web and the side of the head of the rail to reinforce the same, a slotted shaft mounted on the engaging member, a binding strap having the ends thereof inserted through the slots of the shaft to bind said member to a support, said strap constructed and adapted to be passed transversely around said support, means for locking the shaft in position, and means for turning said shaft.

In testimony whereof, I affix my signature, in presence of two witnesses.

ANFEN S. CHILSEN.

Witnesses:

JOHN VAN HECKE,
NORMAN M. CHILSEN.