

E. A. WALL.
CAM AND TAPPET MECHANISM.
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1,049,552.

Patented Jan. 7, 1913.

Fig. 2.

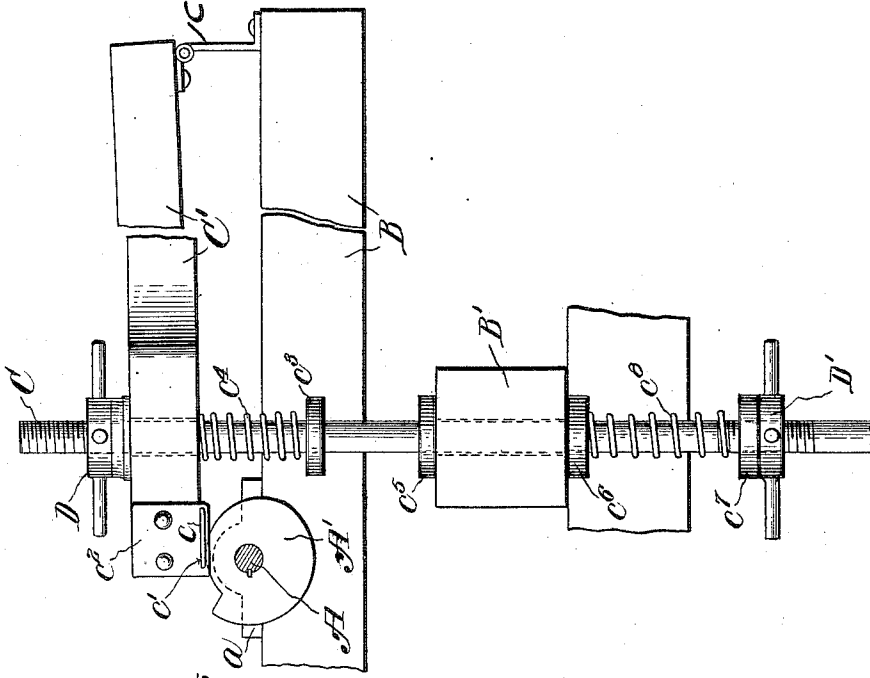


Fig. 1.

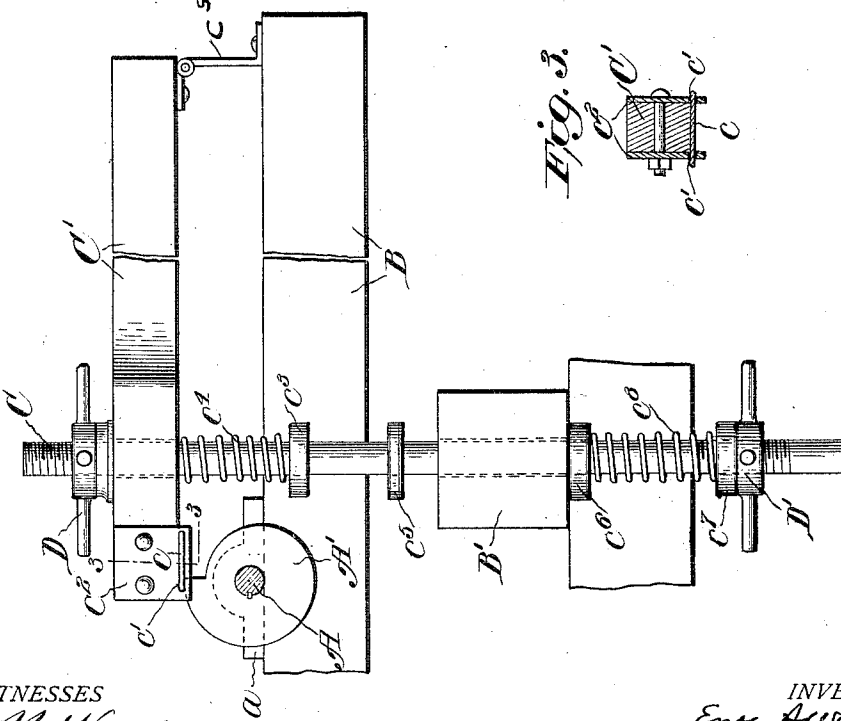
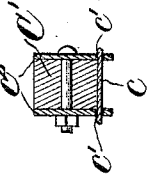


Fig. 3.



WITNESSES

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CAM-AND-TAPPET MECHANISM.

1,049,552.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ENOS A. WALL, a citizen of the United States, residing at Salt Lake City, in the county of Salt Lake and State of Utah, have invented certain new and useful Improvements in Cam-and-Tappet Mechanism, of which the following is a specification.

My invention relates to improvements in the cam and tappet mechanism shown in my Patent 947,874, February 1, 1910.

The object of the invention is to obviate the necessity for offset in the reciprocating rod and construct the tappet in the form of a lever hinged at one end to the framework with its free end extending over the cam. This object I accomplish by the mechanism shown in the accompanying drawing, in which:

Figures 1 and 2 are side elevations of my improved mechanism with the parts in different positions, and Fig. 3 is a detail section on line 3—3 of Fig. 1.

A designates a shaft mounted in suitable bearings *a* on a solid framework B, and provided with a cam A'. The shaft will be rotated by suitable mechanism not shown.

C is a straight rod mounted to reciprocate in a cross piece B', and extending at its upper or outer end past the cam A' and freely through the free end of a tappet lever C' hinged at its opposite end to the framework B by a hinge C⁵. The free end of the tappet lever crosses the upper or outer side of the cam A' and is provided with a wear plate *c*, mounted in slots *c'* in the projecting ends of two plates *c*², *c*², secured to the opposite sides of the tappet lever. Thus the wear plate *c* may be replaced from time to time as it wears away. The rod C is provided below the cam A' with a collar *c*³ and between the collar and the tappet lever is a strong spiral spring *c*⁴ which forces the tappet lever hard against a hand nut D on the upper threaded end of the rod. Where a jarring motion is desired, as in certain classes of ore washers or separators, the rod C will be provided with a fixed bumper-collar *c*⁵ which strikes the bumper bar B', imparting a jarring motion to the part to which the lower or inner end of the rod C is or may be attached. In the case of other

classes of machines, such as ore stamps and the like, the bumper *c*⁵ will be omitted.

Below the bar B' there is a bearing collar *c*⁶, through which the rod freely slides and therebelow is a loose cup-like collar *c*⁷, forming the bearing for the lower end of a rod-spring *c*⁸. The collar *c*⁷ rests upon a hand nut D' upon a threaded portion of the rod C.

In many classes of machines it is highly essential that the length and force of the throw of the operating rod may be adjusted without stopping the machine and this my construction provides for. In order to lengthen or shorten the throw of the rod C, it is simply necessary to turn the hand nut D in the proper direction; the spring *c*⁴ keeping the tappet lever C' to the nut D, which is its sole purpose. To change the force of the throw of the rod C, after length of throw has been determined, the nut D' will be turned in the proper direction. By having the tappet in the form of a pivoted lever there will be no danger of its turning on the rod and the rod may be straight instead of offset.

The parts may be set vertically, as shown, or horizontally, according to the kind of machine to be actuated or work to be performed.

What I claim is:

1. A cam and tappet mechanism, comprising a straight reciprocating rod, a compression spring on the rod for projecting it, a tappet lever hinged at one end and having an aperture near its opposite end through which the rod freely passes, a nut on the upper or outer end of the rod, a strong spring engaging the inner side of the tappet lever and holding it firmly against the nut, and a rotary cam also engaging the inner side of the free end of the tappet lever against the action of the adjusting nut.

2. A cam and tappet mechanism, comprising a straight reciprocating rod, a compression spring on the rod for projecting it, a tappet lever hinged at one end and having an aperture near its free end through which the rod freely passes, slotted side plates on the free end of the tappet lever, a wear plate extending through said slots across the inner face of the tappet lever, a nut on the upper or outer end of the rod and bearing

on the outer face of the tappet lever, a strong spiral spring bearing on the inner face of the tappet lever and holding it firmly against said nut, and a rotary cam engaging
5 the wear plate on the inner side of the free end of the lever against the action of the nut.

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

ENOS A. WALL.

Witnesses:

CARL REDMAN,

CHARLES C. LINK.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
