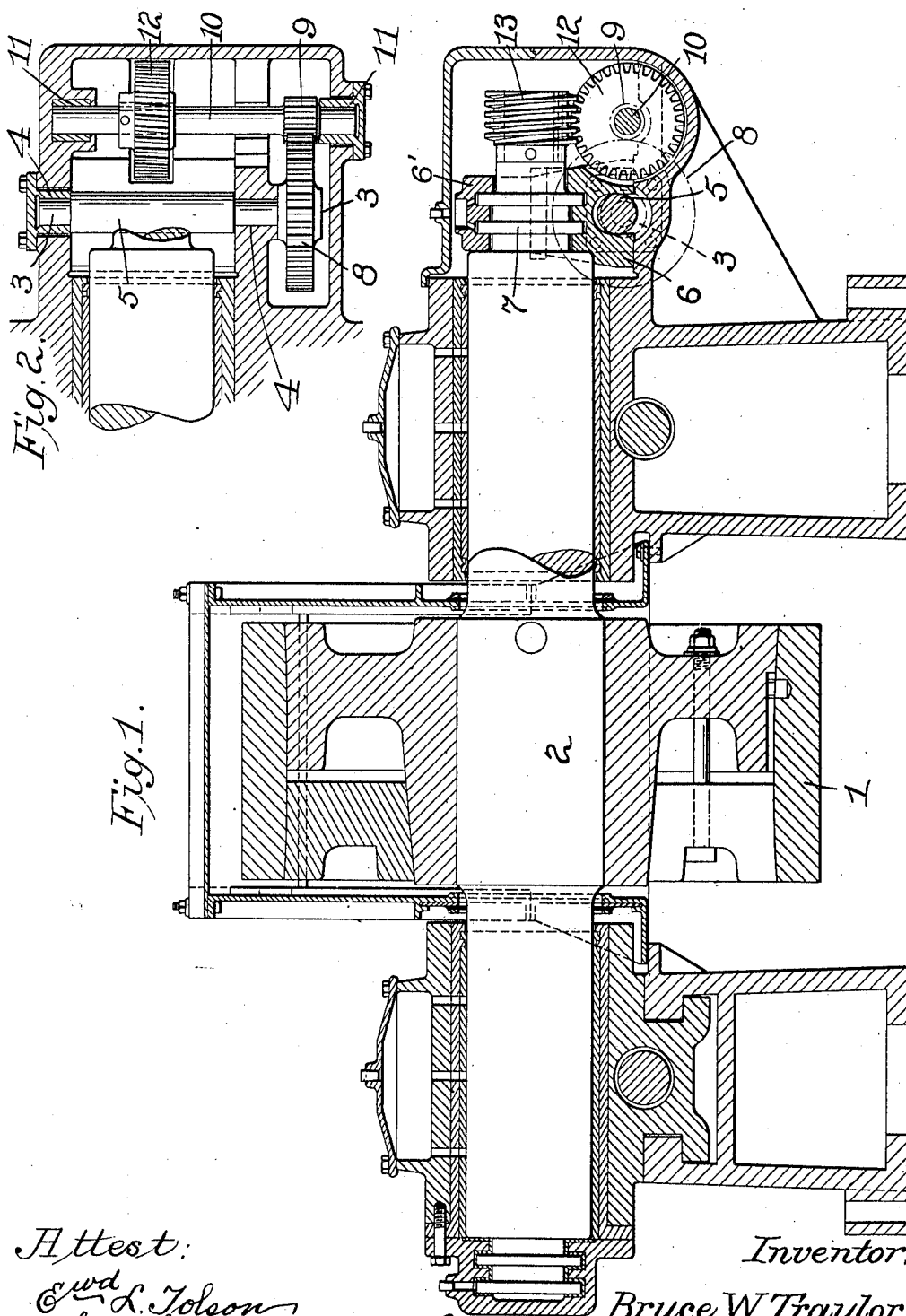


B. W. TRAYLOR.
MECHANISM FOR RELATIVE RECIPROICATION OF ROTARY MEMBERS.
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1,040,465.

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Attest:

Edw. L. Tolson
Chas. F. Elkhorn

Inventor:

Bruce W. Traylor,

by Spear, Middleton, Dunsen & Spear
Attys.

UNITED STATES PATENT OFFICE.

BRUCE W. TRAYLOR, OF NEW YORK, N. Y., ASSIGNOR TO TRAYLOR ENGINEERING AND MANUFACTURING CO., A CORPORATION OF DELAWARE.

MECHANISM FOR RELATIVE RECIPROICATION OF ROTARY MEMBERS.

1,040,465.

Specification of Letters Patent.

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Application filed November 25, 1911. Serial No. 662,500.

To all whom it may concern:

Be it known that I, BRUCE W. TRAYLOR, a citizen of the United States, residing at New York city, New York, have invented certain new and useful Improvements in Mechanism for Relative Reciprocation of Rotary Members, of which the following is a specification.

My invention relates to means for giving a longitudinal movement to a crushing roll, and it consists in the features and combination and arrangement of parts hereinafter described and particularly pointed out in the appended claim.

In the accompanying drawing Figure 1 is a central longitudinal section through an apparatus embodying my invention, parts being shown in section and broken away; Fig. 2 is a sectional plan view of parts shown in Fig. 1.

In these drawings, 1 indicates one of the crushing rolls and 2 its shaft. With this roll is associated another roll, as is customary in this art, between which rolls the material is to be crushed. The rolls are rotated in any suitable manner as by a fly wheel connected with the shaft of one roll, the other roll being driven through frictional contact from the first roll. In order to give one of the rolls a longitudinal or axial movement in relation to the other, I provide at the end of the shaft of said roll a transverse shaft 3 mounted in suitable bearings in the frame at 4, as shown in Fig. 2, and this shaft is provided with an eccentric portion 5 fitting in a recess in a block 6, which is secured to the end of the roll shaft, the said block being formed in two sections 6 and 6', which embrace ribs 7 extending circumferentially of the reduced end of said roll shaft.

The eccentric shaft 3 is rotated through a gear 8 thereon meshing with a gear 9 on a shaft 10, which has its bearings in the frame at 11, Fig. 2, and this shaft is provided with a worm wheel 12 with which a worm 13 meshes, said worm being connected with the reduced end of the roll shaft to rotate there-

with. It will now be seen that as the roll shaft is rotated, the worm at the end thereof will, through the gearing described, rotate the eccentric shaft 3, and this shaft, working in the forked or recessed lower portion of the block or box 6, 6', will give a longitudinal reciprocation to the roll shaft and consequently to the roll to displace it laterally or axially in relation to the companion roll. The worm is pinned to the roll shaft.

It will be understood by those skilled in the art that the longitudinal movement of one roll is to prevent corrugation of the faces of the rolls because where rolls run without this relative longitudinal movement for a long time the ore runs more to one point than another and soon begins to wear the shell more rapidly at that point. These corrugations will soon decrease the capacity of the roll and prevent it from performing its proper function in grinding the material. Furthermore, with the rolls having no longitudinal relative movement it is possible to get only one-half of the life of the shell. With the longitudinally movable roll, however, the full capacity of the roll is derived and its life increased to the maximum.

I claim as my invention:

In combination with a pair of rotary members, means for giving one member a reciprocating movement axially, consisting of a worm on the said reciprocating member, two shafts extending transversely of the members and beneath the same, a worm wheel on one of the said transverse shafts engaging the worm, an eccentric on the other transverse shaft, a block operated by the eccentric and connected with the reciprocating member and gearing between the two transverse shafts, substantially as described.

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

BRUCE W. TRAYLOR.

Witnesses:

LOUISA E. SIMSON,
FRANCIS C. CRISPEN.