P. C. ANDERSEN.

STONE CRUSHER.

APPLICATION FILED JUNE 5, 1917.

1,298,153.

Patented Mar. 25, 1919.

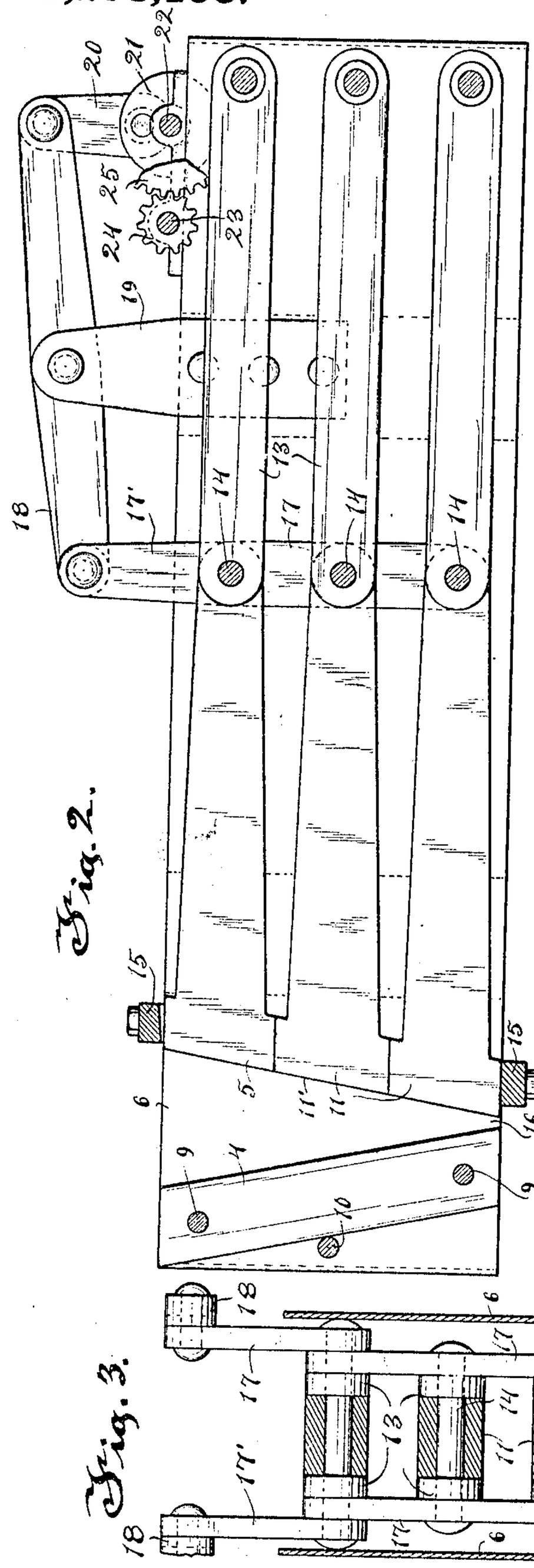

Fig. 2.

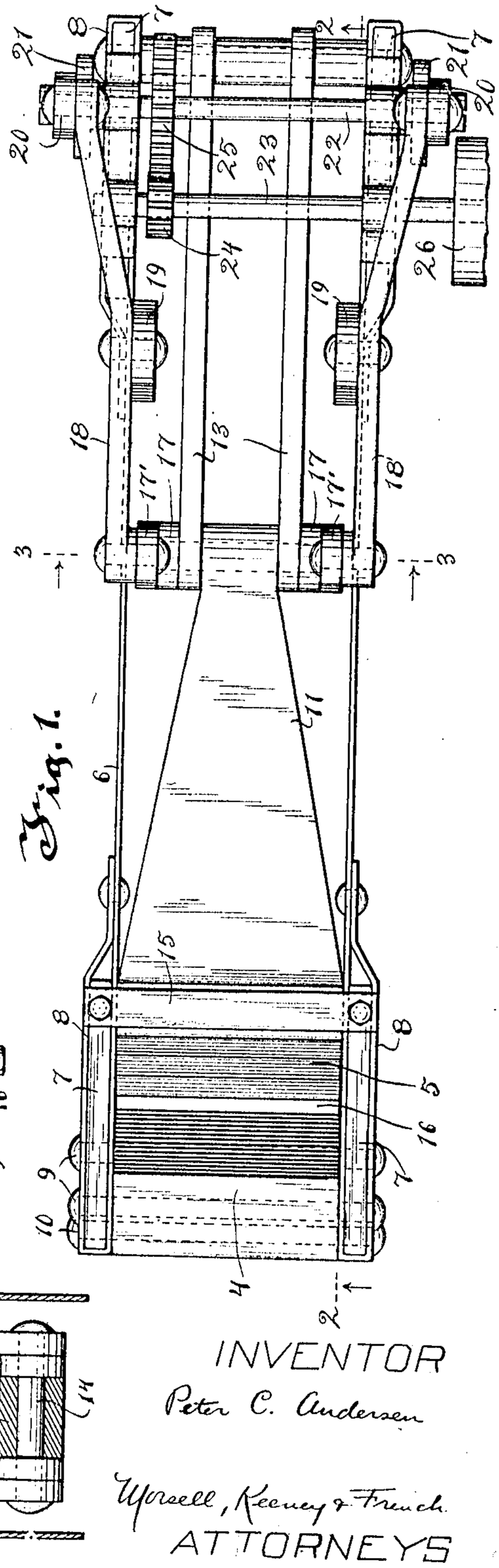

Fig. 1.

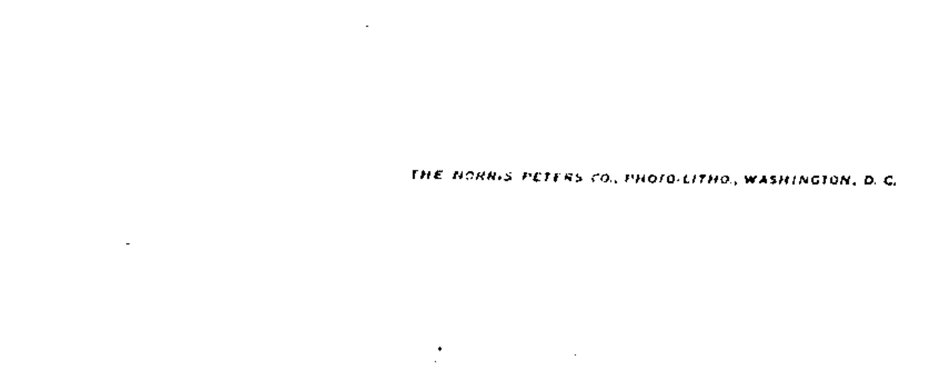

Fig. 3.

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STONE-CRUSHER.

1,298,153. Specification of Letters Patent. Patented Mar. 25, 1919.

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To all whom it may concern:

Be it known that I, PETER C. ANDERSEN, a citizen of the United States, and resident of Racine, in the county of Racine, Wisconsin, have invented new and useful Improvements in Stone-Crushers, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

The invention relates to rock crushers.

The invention is designed more particularly to provide a crusher of simple and efficient construction for crushing large rock or boulders.

The invention is further designed to provide a crusher having a fixed jaw and a movable jaw which is provided with a toggle joint leverage system of simple construction for exerting great power.

The invention further consists in the several features hereinafter set forth.

In the drawings:

Figure 1 is a plan view of the device embodying the invention, parts being broken away;

Fig. 2 is a section taken on the line 2—2 of Fig. 1;

Fig. 3 is a section taken on the line 3—3 of Fig. 1.

In general, the device comprises a frame, a fixed crusher jaw 4 carried thereby, a movable crusher jaw 5 and means for operating the movable jaw.

The frame consists of metal side plates 6 which are reinforced at their ends by having metal plates 7 secured to said plates 6 by bending the end portions 8 thereof around the plates 7 and riveting them to the side plates.

The fixed crusher jaw 4 is a heavy metal plate inclined slightly from the vertical and secured to the frame by bolt rods 9 passing through said jaw and frame and further braced by a rod 10.

In the drawings I have shown the movable crusher jaw consisting of a plurality of members 11 having tapered crusher faces 11′, each of which members are pivotally connected by a rod 14 to one of the ends of sets of links 13 which are pivotally connected at their other ends to rods secured to the frame. The jaw members are guided at their ends between transverse frame members 15. It will be noted from Fig. 2 that the fixed jaw 4 and the movable jaw 5 form with each other a V-shaped space into which the rock is introduced and gradually crushed from its entrance at the top to the outlet 16 between the blades of the crusher.

The means for operating the movable crusher consists of means for moving the links 13 and the jaw members 11 together to perform the crushing operation. This consists of uprights 17 secured to the rods 14 adjacent the links 13 and means for vertically reciprocating said uprights. This means consists of a pair of links 17′, a pair of levers 18, each pivotally connected at one end to its respective link 17, pivotally connected intermediate its ends to a bracket 19 secured to the frame of the machine and pivotally connected at its other end to a link 20 eccentrically connected to a disk 21 mounted on a shaft 22. This shaft 22 is continuously driven by power transmitted in any suitable manner and in the drawings I have shown a drive shaft 23 having a gear 24 in mesh with a gear 25 on the shaft 22 and carrying a pulley 26 which is adapted to be connected up by a belt (not shown) to any suitable source of power.

It will be noted in this construction that the reciprocation of the uprights 17 will bend the toggle joints formed by the members 11 and links 13 with the result that the portion of the movable jaw will be moved longitudinally to crush the rock between them and the fixed jaw and that the employment of the toggle link enables one to obtain a great crushing pressure upon the stone.

The invention thus exemplifies a simple and efficient form of stone crusher.

What I claim as my invention is:

In a crusher, the combination of a frame, a fixed crusher jaw mounted therein, a movable crusher jaw mounted therein and cooperating with said fixed jaw and compris-

ing a plurality of superimposed oscillatory members, said members being guided by the frame and by the adjacent member or members with which they are in contact, links pivotally connected at their rear ends to the frame and at their front end to the rear ends of said members to form toggle joints, an upright connecting the joints of the toggles together, and an oscillatory lever pivotally connected to said upright for reciprocating it to operate said toggles to move said jaws.

In testimony whereof, I affix my signature.

PETER C. ANDERSEN.