

J. W. SCHERRER.

CRUSHER.

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1,057,283.

Patented Mar. 25, 1913.

Fig. 1.

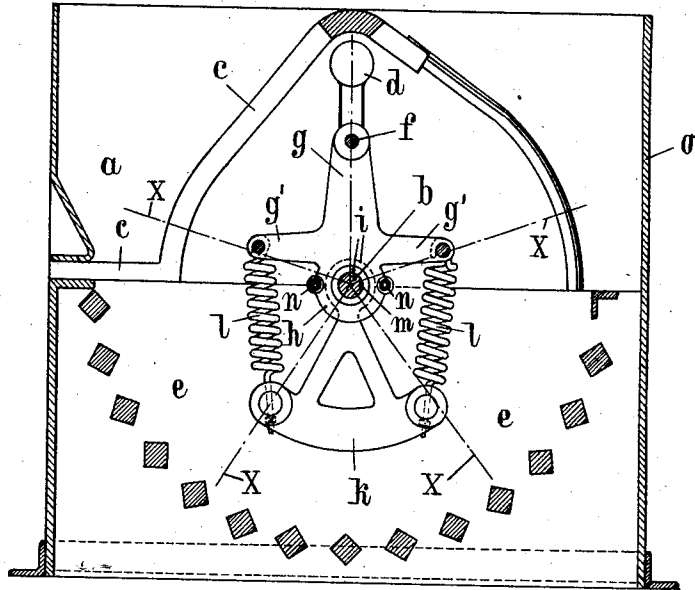
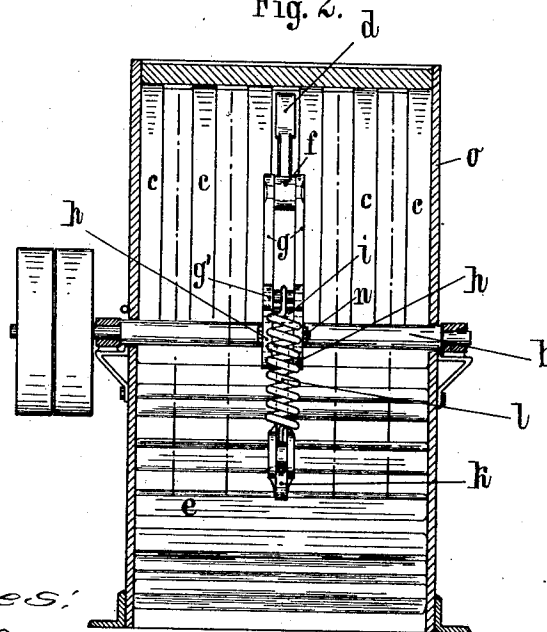


Fig. 2.



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UNITED STATES PATENT OFFICE.

JOHANN WENNEMAR SCHERRER, OF STUPKI, NEAR BACHMOUTH, RUSSIA.

CRUSHER.

1,057,283.

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To all whom it may concern:

Be it known that I, JOHANN WENNEMAR SCHERRER, director, subject of the Kingdom of the Netherlands, residing at Stupki, near 5 Bachmouth, Russia, have invented certain new and useful Improvements in Crushers, of which the following is a specification.

My invention relates to improvements in crushers, and more particularly in crushers 10 in which the material to be crushed is disintegrated by means of one or more crushing members or hammers pivotally mounted on a rotary member.

The object of the improvements is to provide a crusher of this class in which the reaction on the rotary member caused by the hammer or hammers striking the material to be disintegrated is as far as possible avoided.

With this object in view my invention consists in elastically connecting the crushing hammer or hammers with the rotary member.

In order that my invention be more clearly understood, an example embodying the same has been shown in the accompanying drawing in which the same letters of reference have been used in all the views to indicate corresponding parts.

30 In said drawing Figure 1, is a vertical section of the crusher, and Fig. 2, is a vertical cross-section of the same in which all the crushing members except one have been omitted.

35 Referring to the example illustrated in the drawing, the crusher comprises a casing *o* providing in its front and rear walls bearings for a rotary shaft *b*. In the upper part of the casing a grate is provided by upwardly curved bars *c* which at their lower 40 ends provide a funnel *a* for the material to be crushed. On the shaft *b* arms *g* are mounted which correspond to the spaces between the grate formed by the bars *c*, and 45 each of the said arms has a crushing member or hammer *d* pivotally mounted thereon, which hammer is adapted to be thrown by the rotation of the shaft *b* between the spaces of the grate and into the funnel *a* against 50 the material to be crushed. Thereby the said material is disintegrated, and the disintegrated parts fall through the spaces of the grate and into the chamber *e*. In the figures only one hammer *d* is shown, but I 55 wish it to be understood that there are a

plurality of hammers on the shaft *b* and that in the preferred form the said hammers are arranged at equal angles around the shaft, as has been indicated in Fig. 1 by the broken lines *x*.

According to my invention the arms *g* are not rigidly secured to the shaft *b* but elastically. Thereby the shocks which are caused by the hammers striking on the material to be crushed and by being released therefrom 65 are not in their full strength transmitted to the shaft *b*, so that the latter can not be injured by the said shocks and the energy required for the operation of the machine is reduced.

In the example shown in the drawing the arm *g* is made of two counterpart members arranged in spaced parallel relation and connected together by screws *n*, each of such members including a hub portion *h* which 75 is rotatably mounted on the shaft *b*. The members of each arm are also formed with two lateral projections which are similarly connected to form the wings *g'*. In addition a second hub *i* is rigidly secured to the 80 shaft *b* between the hub portions *h* of each arm by means of a key *m*, and the said hub *i* carries a sector *k* that is connected with the outer ends of the wings *g'* by spring *l* 85 which tend to hold the pivot *f* of the hammer *d* in its medial position as long as no transverse force acts on the hammer, but which yield when the hammer is arrested or thrown forward in its revolution around the shaft *b*.

I claim:

1. In a crusher, the combination with a support for the material to be crushed, of a rotary shaft, a sector rigidly secured to said shaft, a driven member loosely mounted on 95 the shaft, springs connecting said driven member and sector and tending to hold the driven member in a medial position, and a crushing member pivoted on said driven member for movement in the direction of 100 the rotation thereon.

2. In a crusher, the combination, with a support for the material to be crushed, of a rotary shaft, a driving member fast thereon, a driven member loose on said shaft, a 105 crushing member pivoted to the driven member for movement in the direction of the rotation thereof, and shock-absorbing connections between said driven and driving members.

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3. In a crusher, the combination, with a support for the material to be crushed, of a rotary shaft coöperative fast and loose members mounted thereon and extending in
5 opposite directions, a crushing member carried by the loose member, and spring connections between said fast and loose members for normally holding the latter in its medial position relative to the former and
10 for absorbing a portion of the shocks in-

cidental to the contact of said crushing member with said material.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHANN WENNEMAR SCHERRER.

Witnesses:

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