C. E. STAHL.

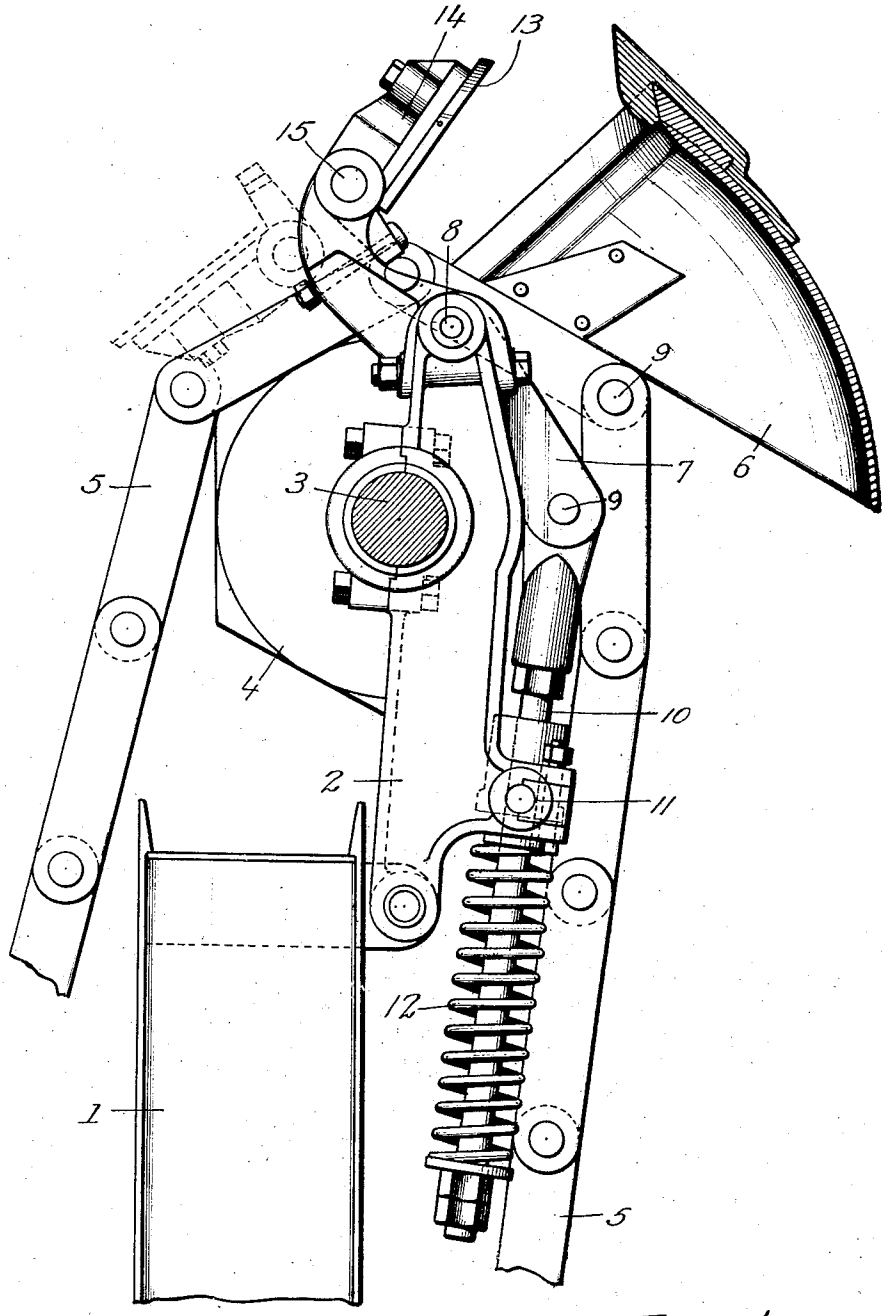
EXCAVATOR BUCKET CLEANER.

APPLICATION FILED SEPT. 23, 1918.

1,336,595. **Patented Apr. 13, 1920.**

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 2.

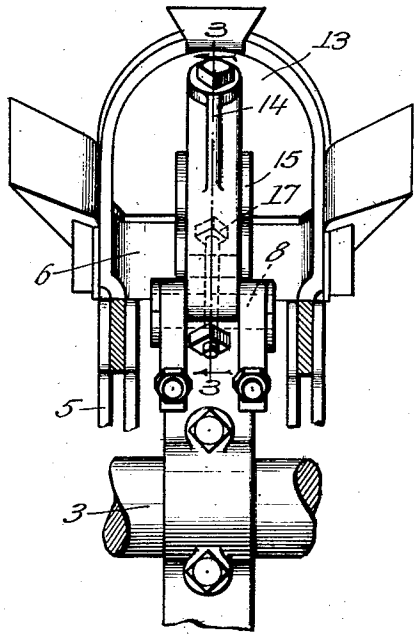


Fig. 3.

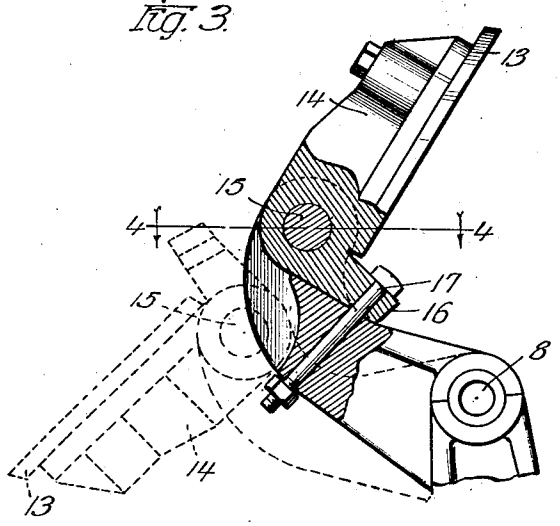
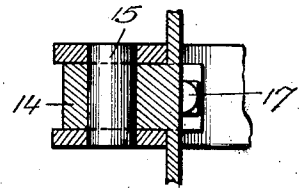


Fig. 4.



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UNITED STATES PATENT OFFICE.

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EXCAVATOR-BUCKET CLEANER.

1,336,595. Specification of Letters Patent. Patented Apr. 13, 1920.

Application filed September 23, 1918. Serial No. 255,217.

To all whom it may concern:

Be it known that I, CHARLES E. STAHL, a citizen of the United States of America, and a resident of Winthrop Harbor, Illinois, have invented a certain new and useful Improvement in Excavator-Bucket Cleaners, of which the following is a specification.

This invention relates to excavating machines of that kind in which an endless series of buckets is employed for cutting a trench in the ground behind the body of the excavator, as the machine moves slowly forward, and in which a cleaner is disposed in position to pass through the buckets to scrape the mud and dirt therefrom, thus insuring a cleaning of each bucket at the desired point of discharge.

The object of the invention is to provide means for preventing breakage when the cleaner strikes a bucket or a load that fails to yield.

It is also an object to provide certain details and features of construction tending to insure the desired results, in a cleaner of this particular construction, and to render an excavator of this character less liable to get out of order.

To these and other useful ends the invention consists in matters hereinafter set forth and claimed.

In the accompanying drawings—

Figure 1 is a side elevation of a cleaner embodying the principles of the invention, showing the adjacent bucket in section.

Fig. 2 is a front elevation of the upper portion of the structure shown in Fig. 1.

Fig. 3 is an enlarged detail sectional view of a portion of the cleaner mechanism.

Fig. 4 is a detail section on line 4—4 in Fig. 3.

As thus illustrated, the invention comprises a digging beam 1, of the usual or any suitable character, and a casting 2 at the upper end thereof, forming a bearing for the upper shaft 3, which carries the sprocket wheels 4 that operate the endless sprocket chains 5 upon which the ordinary buckets 6 are carried. This is common and well known construction in a trenching machine.

The cleaner arm 7 is pivoted at 8 on the upper end of the casting 2, and is pivotally connected at 9 with the upper end of the rod 10, which latter reciprocates up and down in a suitable bearing 11 on the casting 2, a spring 12 being applied to the rod below said bearing to yieldingly oppose by its compression the upward movement of the rod. The cleaner comprises a plate 13 removably secured to the shank 14, which latter is pivoted or hinged at 15 upon the arm 7, the plate being thus disposed in position to pass through all of the buckets as the latter travel upward and over the sprocket wheels 4 at the top of the apparatus. The shank 14 has a lug 16, and a bolt 17 is inserted through this lug and the arm 7 for the purpose of rigidly securing the cleaner plate in position on the arm.

The bolt 17 is of such character that it will break or will have its screw threads stripped, if the cleaner plate is accidentally struck by a displaced bucket, or by a load that does not yield, thus preventing breakage of the cleaner itself, or of the buckets. A new bolt can then be inserted at small cost, thus restoring the machine to operative condition. In this way the cleaner is characterized by a purposely weak point in the construction thereof, so that the cleaner can swing back on its pivot 15, as shown in dotted lines, in case the cleaner is struck by some unyielding object, and thus serious breakage is avoided. Any relatively weak means can be used which will give way under the strain of undue pressure on the cleaner. It will be seen that the pivot 15 provides a normally inactive pivotal point between the cleaner 13 and the pivot 8 of the arm upon which the cleaner is supported—that is to say, the pivotal point 15 is normally inoperative, so to speak, and does not function, but is brought into action by abnormal conditions, in the manner explained. The axis of the fulcrum or main pivot 8 extends horizontally and this axis and the axis of the pivotal point 15 are parallel, so that the cleaner 13 has a normal swinging movement about the axis 8, and an abnormal or emergency swinging movement about the pivot 15, thus preventing breakage, in the manner explained.

What I claim as my invention is:—

1. In an excavator cleaner for scraping out the loads from the buckets, a pivoted arm, a joint forming a normally inactive pivotal point in said arm, a cleaner plate supported thereby, the axis of said joint being parallel with the axis about which said arm swings, a breaking connection to normally hold said joint rigid, adapted to

release the joint and permit the cleaner plate to swing backward out of the way when struck by an unyielding object.

2. A structure as specified in claim 1, said breaking connection comprising a bolt, and two portions through which the bolt is inserted, which portions are capable of relative pivotal movement when the bolt is broken or stripped by undue pressure on said cleaner plate.

3. A structure as specified in claim 1, said bearing connection comprising two portions held together by relatively weak means, adapted to separate when said means give way under the strain of undue pressure on the cleaner plate.

4. The combination of the pivoted cleaner arm, the shank pivoted on said arm, spring means to control said arm, so that the arm and shank have parallel axes, a cleaner plate secured to said shank, buckets to be cleaned by said cleaner plate, and relatively weak means to normally hold said shank rigidly in position on said arm, adapted to give way under the strain of undue pressure on the plate.

CHARLES E. STAHL.