I. E. BURKETT.

EXCAVATING SCRAPER.

APPLICATION FILED DEC. 9, 1915.

1,242,320. Patented Oct. 9, 1917.

Fig. 1.

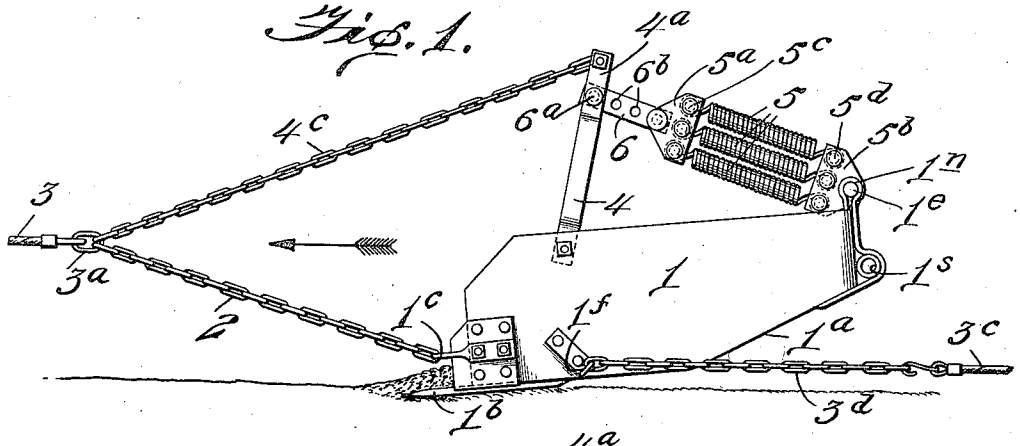


Fig. 2.

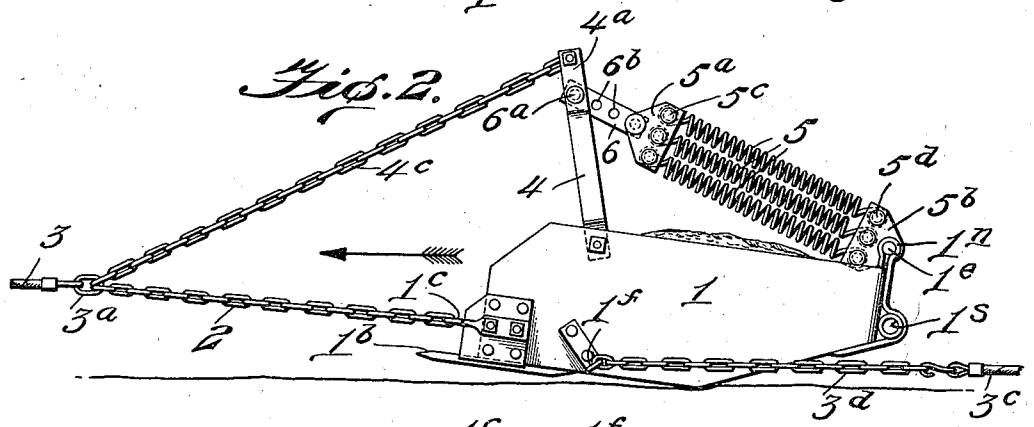
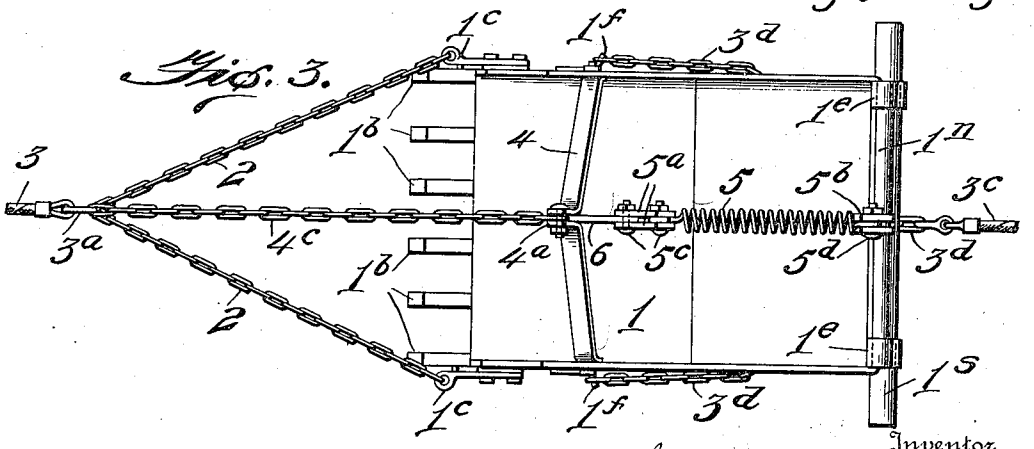


Fig. 3.



Inventor

Witnesses

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UNITED STATES PATENT OFFICE.

IRA E. BURKETT, OF MACON, GEORGIA, ASSIGNOR TO SCHOFIELD-BURKETT CONSTRUCTION COMPANY, OF MACON, GEORGIA, A CORPORATION OF GEORGIA.

EXCAVATING-SCRAPER.

1,242,320. Specification of Letters Patent. Patented Oct. 9, 1917.

Application filed December 9, 1915. Serial No. 65,913.

To all whom it may concern:

Be it known that I, IRA E. BURKETT, a citizen of the United States, residing at Macon, in the county of Bibb and State of Georgia, have invented certain new and useful Improvements in Excavating-Scrapers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention is a novel improvement in excavator scrapers, and the object of the invention is to provide a scraper with novel attachments whereby the draft on the scraper can be utilized to cause the scraper to automatically load itself as it is drawn forward, and to automatically adjust itself out of the ground when loaded so that it can be readily "hauled" from one point to another after the excavating operations.

The invention is particularly adapted for use in connection with the scraper shown in my Patent No. 1,095,155, dated April 28, 1914, but is also useful with other power operated scrapers.

I will explain the invention with reference to the accompanying drawings; which show one practical embodiment of the invention.

In said drawings:

Figure 1 is a side elevation of the scraper in loading position;

Fig. 2 is a similar view thereof in "hauling" position; and

Fig. 3 is a top plan view of the scraper.

The scraper 1 may be of any desired form, being shown as of the "scoop" type, and formed of metal. The rear part of the bottom of the scraper is upwardly inclined as at 1^a, and the front edge of the scraper is provided with teeth 1^b. To the sides of the scraper near their forward ends are secured draft eyes 1^c to which is attached a draft chain 2, that is connected to a ring 3^a, that may be attached to a hauling cable 3, or to any other draft appliance, by which the scraper can be drawn forward.

To the sides of the scraper is pivotally attached a yoke 4 having a shank 4^a, to which is pivotally connected the forward end of a composite spring member, hereinafter explained, the rear end of which member is pivotally connected to a rod 1^e mounted in eyes 1^n on the back of the scraper. The shank 4^a of the yoke 4 is connected by a chain 4^c with the draft ring 3^a. A pipe 1^s is attached to the rear of the scraper to support same at the dump. Thus far the parts, with the exception of the composite spring member, are substantially similar to those illustrated and described in my aforesaid patent.

The spring member preferably has a plurality of helical springs 5 connected at front to opposed plates 5^a, and at rear to opposed plates 5^b. The front ends of the coil springs may be secured between the plates 5^a, as indicated at 5^c, and the rear ends of the springs secured between the plates 5^b, as indicated at 5^d.

The plates 5^a are also connected to a link 6 which is preferably pivotally connected to the yoke 4 by a bolt 6^a. The plates 5^b may be hung directly upon the rod 1^e, as indicated in the drawings.

The spring member is so adjusted that when the scraper is empty and the cable 3 is taut the rear end of the scraper will be elevated, as indicated in Fig. 1, and when the scraper is pulled forward the teeth thereof will automatically bite into the earth and the scraper will load as it is drawn forward; but when the scraper becomes filled with dirt the rear end thereof will be depressed by the weight of the load and extend the springs 5 elongating the spring member, as indicated in Fig. 2, and the front end of the scraper will be drawn upwardly out of the ground, as indicated in Fig. 2, so that the loaded scraper can be readily dragged along over the surface of the ground without digging into the earth.

To insure the proper bite of the teeth in the ground, and to vary the bite according to the nature of the soil being operated on, the spring member may be adjustably connected to the yoke in any suitable manner. A convenient means, illustrated in the drawings, is to form the link 6 with a series of apertures 6^b, any one of which may be engaged with the bolt 6^a attached to the shank 4^a.

When the invention is applied to a power operated scraper, (such as shown in my patent aforesaid) the scraper may be drawn back by means of a draft cable 3^c connected by chains 3^d to draft eyes 1^f on the scraper, as indicated in the drawings.

In operating this scraper, it may be drawn backward by pulley cable 3^c to the

place of loading; and as it is empty the action of the spring member will automatically elevate the rear end of the scraper, causing it to bite in the ground and automatically load itself when drawn forward; but when it becomes loaded the weight of the load extends the spring member so as to depress the rear end of the scraper and the pull of the chain will cause the front end to rise out of the ground and the scraper will then ride freely over the surface of the ground.

The great practical advantages and utility of the invention will be readily appreciated by those familiar with the use of such scrapers as by reason of the automatic self adjustment of the scraper it can be operated without manual handling at the loading point; and can be successfully used under water.

What I claim is:

1. In combination with a scraper, a draft device attached with the front thereof, a spring member connected with the rear thereof, and a connection between said spring member and the draft device, whereby the scraper will automatically adjust itself to loading position when empty, substantially as described.

2. In combination with a scraper, a draft device attached with the front thereof, a spring member connected with the rear thereof, and a connection between said spring member and the draft device, whereby the scraper will automatically adjust itself to hauling position when loaded, substantially as described.

3. In combination with a scraper, a draft device attached with the front thereof, a member connected with the rear thereof, and a connection between said member and the draft device, whereby the scraper will automatically adjust itself to loading position when empty, and to hauling position when loaded, substantially as described.

4. In combination with a scraper, a draft appliance connected to the forward end thereof, a yoke pivoted on said scraper, a spring member connected to the yoke and to the rear end of the scraper, and a connection between said yoke and the draft appliance, whereby the scraper will automatically adjust itself to loading position when empty, substantially as described.

5. In combination with a scraper, a draft appliance connected to the forward end thereof, a yoke pivoted on said scraper near its forward end, a spring member connected to the yoke and to the rear end of the scraper, and a connection between said yoke and the draft appliance, whereby the scraper will automatically adjust itself to hauling position when loaded, substantially as described.

6. In combination with a scraper, a draft appliance connected to the forward end thereof, a yoke pivoted on said scraper near its forward end, a member connected to the yoke and to the rear end of the scraper, and a connection between said yoke and the draft appliance, whereby the scraper will automatically adjust itself to loading position when empty, and to hauling position when loaded, substantially as described.

7. In combination with a scraper, a draft appliance attached to the forward end thereof, a yoke pivoted on said scraper near its forward end, a spring member connected to the rear end of the scraper and adjustably connected to the yoke, and a connection between said yoke and the draft appliance, whereby the scraper will automatically adjust itself to loading position when empty, and to hauling position when loaded, substantially as described.

8. In combination, a scraper, a draft device connected thereto and means whereby the front of the scraper is automatically raised by the weight of the load as it receives the same.

9. In combination, a scraper, a draft device connected thereto and means mounted on the scraper whereby the weight of the load automatically adjusts it to hauling position.

10. In combination, a scraper, a draft device connected thereto and means coöperating with the draft and scraper and operated by the weight of the load whereby as the scraper is pulled forwardly and is loaded it automatically assumes a hauling position.

11. In combination, a scraper, a draft device connected thereto and means actuated by the removal of the weight of the load whereby the scraper assumes a loading position when empty and actuated by the weight of the load whereby the scraper assumes a hauling position when loaded.

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

I. E. BURKETT.

Witnesses:
R. P. Brooks,
Leroy Swinson.