No. 842,384. PATENTED JAN. 29, 1907.

H. J. CLARK.

TAILINGS TRIMMER.

APPLICATION FILED SEPT. 15, 1906.

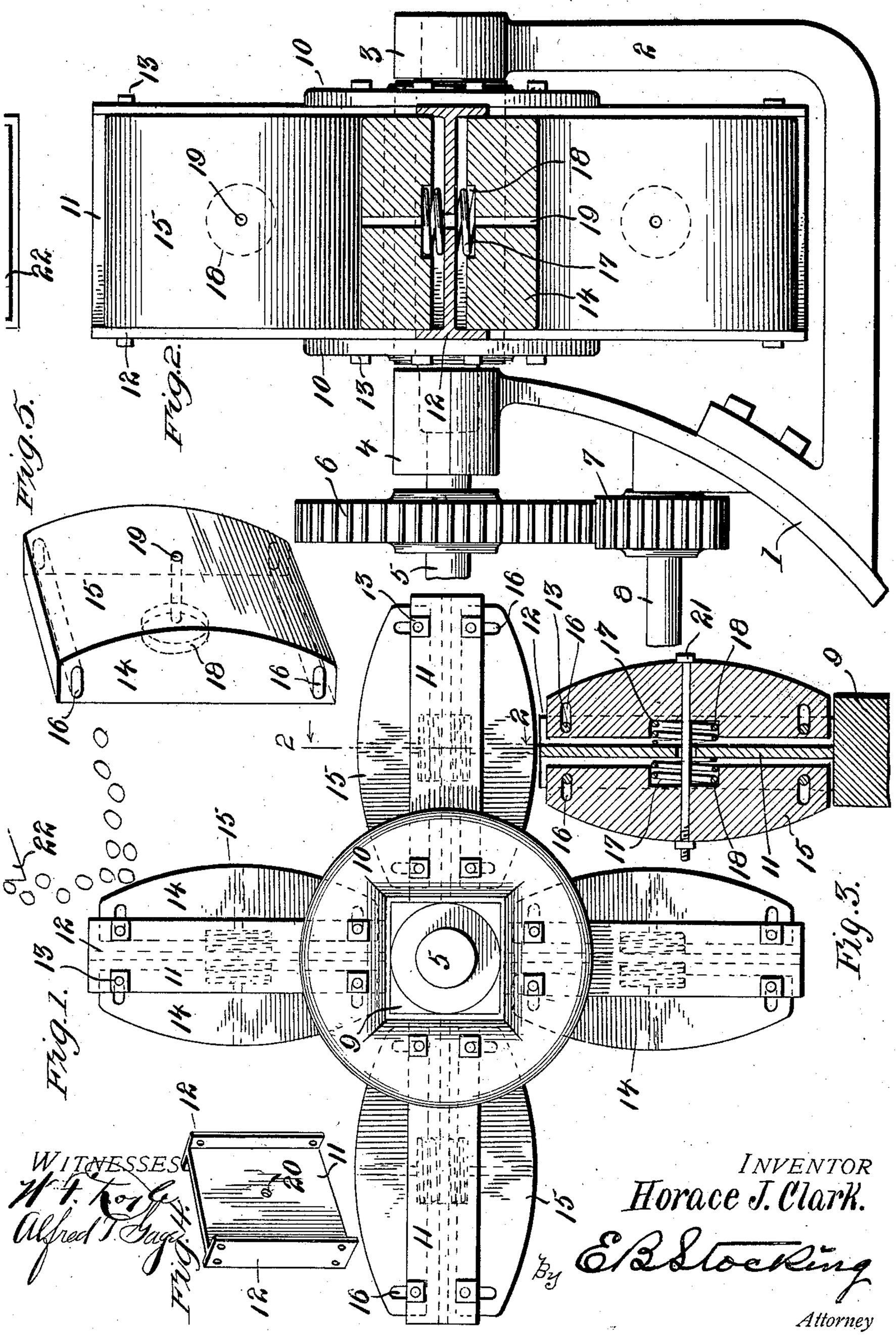

Fig. 2.

Fig. 3.

Fig. 1.

Fig. 4.

WITNESSES:
W. T. Lorg
Alfred T. Gage

INVENTOR
Horace J. Clark.
By E. B. Stocking
Attorney

UNITED STATES PATENT OFFICE.

HORACE J. CLARK, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE CLARK DREDGING COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF NEVADA.

TAILINGS-TRIMMER.

No. 842,384. Specification of Letters Patent. Patented Jan. 29, 1907.

Application filed September 15, 1906. Serial No. 334,744.

To all whom it may concern:

Be it known that I, HORACE J. CLARK, a citizen of the United States, residing at Chicago, in the county of Cook, State of Illinois, have invented certain new and useful Improvements in Tailings-Trimmers, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to a tailings-trimmer, and particularly to a device adapted to spread the tailings received from the discharge of a separating-machine.

The invention has for an object to provide a wheel having blades disposed to receive the discharge of material and in their movement throw or spread it over an extended area. For the purpose of preventing injury to these blades in the movement of the wheel the same are cushioned or mounted upon springs, so as to have a yielding contact, and this movement is limited by the mounting of the blades in the arms of the wheel.

Other and further objects and advantages of the invention will be hereinafter set forth, and the novel features thereof defined by the appended claims.

In the drawings, Figure 1 is an end elevation of the wheel. Fig. 2 is a side view thereof as mounted for use with one of the blades in section on the line 2 2, Fig. 1. Fig. 3 is a longitudinal section through the wheel arm and blade. Fig. 4 is a detail perspective of one of the wheel-arms, and Fig. 5 is an enlarged detail perspective of the contact-face carried by the arms.

Like numerals of reference indicate like parts in the several figures of the drawings.

This invention is adapted for use in connection with any character of device, but particularly in relation to the discharge from a dredge used for mining purposes, so as to prevent the collection of the dredged material behind the boat and to spread or distribute it over the bottom in the operation of the dredge. The trimmer is shown as so mounted in Fig. 2, where the numeral 1 designates the hull of a dredge, which is provided with the supporting-bracket 2, extended therefrom and having bearing-box 3, which in connection with the similar box 4, carried by the hull supports the driving-shaft 5, upon which the wheel is carried. The shaft is provided with a gear 6, adapted to mesh with the pinion 7, the shaft 8 of which may be driven in either direction for the purpose of rotating the trimmer to throw the material to the desired side of the boat carrying the same.

The shaft 5 is provided with a square hub 9, upon which the opposite flanges 10 are secured in any desired manner for the purpose of supporting the wheel-arms 11, which rest on the hub at their inner ends. These arms may be of any desired character, but are preferably composed of I-beams, the flanges 12 of which are suitably perforated to receive the securing-bolts 13 for retaining the contact-blocks 14 in position and securing the same to the flanges. These blocks are preferably convexed upon their outer faces 15, where they contact with the material, and are provided at opposite ends with the elongated slots 16, through which the bolts 13 of the arms pass, as shown in Fig. 3. The blocks are normally forced away from the central ribs by means of the springs 17, disposed in the sockets 18 in the inner face of each of the contact-blocks. In assembling these blocks upon the arms it is necessary to place these springs under compression in order to secure these bolts in position, and for this purpose each of the blocks is provided with a central aperture 19, in alinement with a similar aperture 20 in the arm, through which a bolt 21 is passed and adjusted until the contact-blocks are drawn into proper position for the insertion of the securing-bolts 13 between the flanges 12 of the arms. It will be observed that if the trimmer is designed to rotate only in one direction the contact-block can be omitted from one face of the arm, and when the arm is provided with opposite blocks the wheel is adapted for reversal to dispose the material in either direction as it falls from the hopper or discharge-point 22, as shown in Figs. 1 and 2.

In the operation of the invention it will be seen that the material falling from the hopper or discharge is engaged by the rapidly-rotating arms of the wheel and thrown or distributed thereby over an extended area so as to prevent any collection of the material in a large pile which, in the case of a dredge, would interfere with subsequent navigation. The material when striking the cushioned contact-faces relieves the wheel of the concussion or blow incident to a solid construction and takes the strain from the driving

mechanism, and also the reaction of the spring materially assists in the distribution of the material. It will be observed that these contact-blocks are mounted so as to be reversible upon the arms to compensate for wear, while the rotation of the wheel in opposite directions provides for the distribution over an extended area. The impact of the material against the contact-blocks momentarily compresses the spring, and the reaction thereof imparts additional velocity to the material, which is then propelled outward on any radius according to the position of the hopper above and at an angle to the discharge therefrom.

Having now described my invention and set forth its merits, what I claim, and desire to secure by Letters Patent, is—

1. In a tailings-trimmer, a wheel having blades provided with movable cushioned contact-faces mounted thereon.

2. In a tailings-trimmer, the combination with a discharge device, of a wheel separated from and beneath the same and having blades disposed at an angle to the path of fall of material from said device and provided with movable cushioned contact-faces to engage said material.

3. In a tailings-trimmer, the combination with a discharge device, of a wheel having blades disposed at an angle to the path of fall of material from said device and provided with oppositely-disposed cushioned contact-faces, and means for rotating said wheel in opposite directions.

4. In a tailings-trimmer, a wheel comprising a hub having radial arms extended therefrom, a contact-face movably mounted upon each of said arms, and a cushioning device for retaining said face in extended position.

5. In a tailings-trimmer, a wheel comprising a hub having radially-disposed arms extended therefrom with flanges at their opposite ends, a contact-block disposed between said flanges and provided with slots therein, securing-bolts extending through the flanges of said arms and said slots, and cushioning means disposed between the arm and inner face of said block.

6. In a tailings-trimmer, a wheel comprising a hub having radially-disposed arms extended therefrom with flanges at their opposite ends, a contact-block disposed between said flanges and provided with slots therein, securing-bolts extending through the flanges of said arms and said slots, and a cushioning-spring disposed between the arm and a socket on the inner face of said block.

7. In a tailings-trimmer, a wheel comprising a hub having radially-disposed arms extended therefrom with flanges at their opposite ends, a contact-block disposed between said flanges and provided with slots therein, securing-bolts extending through the flanges of said arms and said slots, cushioning means disposed between the arm and inner face of said block, and a compressing-bolt extended through the block and arm to retain the cushioning means under compression during assemblage.

8. A tailings-trimmer comprising a hub, I-beams secured to said hub, and cushioned contact-blocks disposed on opposite sides of said I-beams.

9. A tailings-trimmer comprising a hub, I-beams secured to said hub, cushioned contact-blocks disposed upon opposite sides of said beams, and securing-bolts for said blocks extending through the end flanges of said beams, and slots in said blocks.

10. In a tailings-trimmer, the combination of a supporting-bracket, a wheel mounted therein provided with a driving-gear, radially-extended arms from said wheel provided with a cushioned contact-face on each thereof, and a discharge-hopper disposed above said wheel to deliver material in the path of travel of said arms.

11. The combination with a discharge device, of a separated uninclosed wheel disposed beneath the same with its axis parallel with and below the discharge edge of said device and having blades disposed to travel in a path transverse to the fall of material from said device.

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

HORACE J. CLARK.

Witnesses:

WALTER LYTTON,

WM. F. HOWE.