July 14, 1942. H. C. BEITZEL 2,289,337

TACKLE BLOCK

Filed Nov. 20, 1940

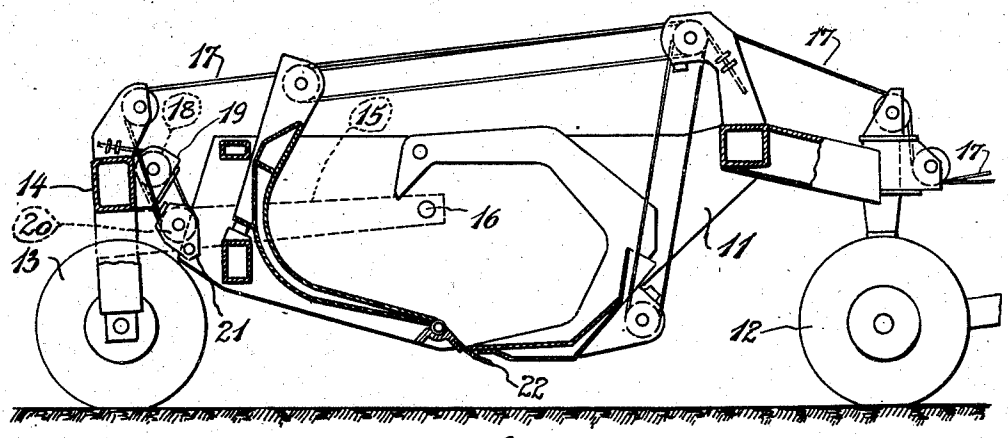


Fig. 1.

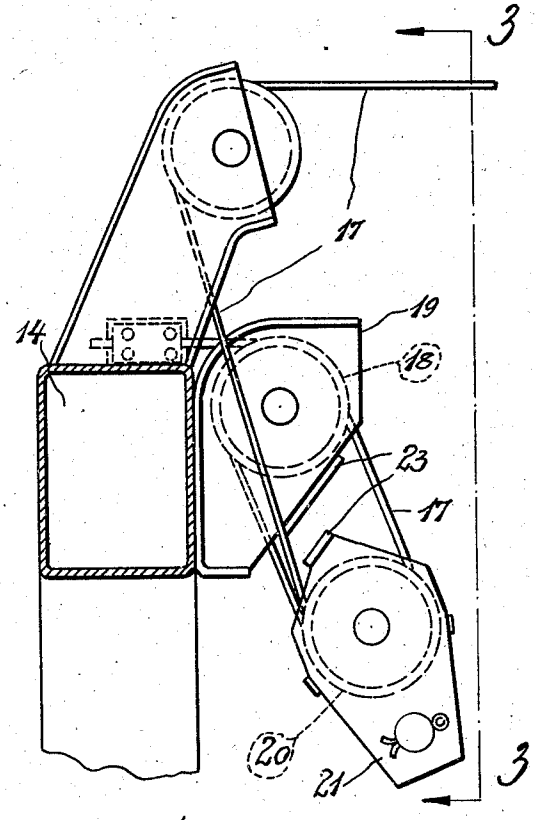


Fig. 2.

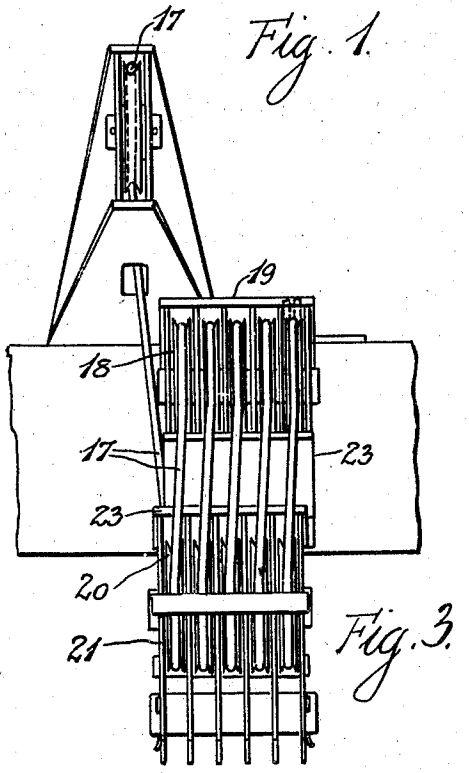


Fig. 3.

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Patented July 14, 1942 2,289,337

UNITED STATES PATENT OFFICE

2,289,337

TACKLE BLOCK

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Application November 20, 1940, Serial No. 366,415

3 Claims. (Cl. 254—188)

My invention consists in new and useful improvements in tackle-blocks, and more specifically in tackle-blocks for earth-moving scrapers.

The several functions of such scrapers are performed by ropes which actuate various tackle-block combinations. Some of these tackle-block combinations are of necessity out of sight of the operator seated on the tractor which pulls the scraper. Accordingly he cannot tell when he is nearing a block-to-block situation, until that situation occurs, when he is apprised of this situation by hearing the blocks clink together, whereupon he must immediately unclutch his winch, lest he pull some part of the mechanism out by the roots. He may even not hear the clink, being first apprised of being block-to-block by the drag on his engine.

He is thus confronted with a dilemma: he must either approach the block-to-block condition slowly and cautiously, thus slowing-down production, or keep tiringly on the alert.

Accordingly the principal object of my invention is to devise a tackle-block assembly which will warn the operator and give him ample time after such warning in which to unclutch his winch, and which will not damage the machinery if the winch continues to operate after the block-to-block situation is reached.

In addition to my principal object, above stated, I have worked out a number of novel and useful details, which will be readily evident as the description progresses.

My invention consists in the novel parts and in the combination and arrangement thereof, which are defined in the appended claims, and of which one embodiment is exemplified in the accompanying drawing, which is hereinafter particularly described and explained.

Throughout the description, the same reference number is applied to the same member or to similar members.

Figure 1 is a side elevation of a scraper, containing my invention.

Figure 2 is an enlarged side elevation of the sheave-block assembly of my invention.

Figure 3 is a slant front elevation of my sheave-block assembly, taken slightly downward, along the lines 3—3 of Figure 1.

Referring to Figure 1, we see that 11 is the main body of a scraper the conventional parts whereof will not be specifically described herein, inasmuch as they constitute no part of my invention.

This main body 11 is so mounted as to pivot as a whole about the axis of the front wheels 12. On the rear wheels 13, there is mounted, to pivot about the axis thereof, an auxiliary frame 14, having forwardly extending arms 15, pivotally attached to the main body 11 at 16.

From a winch (not shown) on the tractor (not shown) which draws the scraper, there is a rope 17, which extends by various unnumbered guide-sheaves to the sheaves 18 of a sheave-block 19, mounted on auxiliary frame 14, and the sheaves 20 of a sheave-block 21, pivotally supporting the rear end of my main body 11.

The object of this sheave-block assembly is to raise and lower the rear end of the main body 11, and thus raise and lower the digging-edge 22 of the scraper.

Turning now to Figures 2 and 3, we see that each block carries a slant edge 23, adapted to engage each other and slide along each other, as the blocks are drawn together by rope 17.

When these slant edges first come into contact with each other, this contact produces a sharp warning click, apprising the operator that he ought at once to unclutch his winch. If he fails to hear the click because of noise of the machinery, the drag on his engine will apprise him that he is block-to-block. In either such event, if he fails to unclutch his winch immediately, as will undoubtedly be the case if he is operating at an efficiently high speed the two slant edges will slide along each other, thus enabling the taking-in of considerably more rope without damage to the mechanism.

Having now described and illustrated one form of my invention, I wish it to be understood that my invention is not to be limited to the specific form or arrangement of parts herein described and shown, except as specifically covered by my claims.

I claim:

1. In a sheave block assembly, the combination of: two sheave blocks; at least one sheave carried by each; and a rope wound about the sheaves; each block having a contact face slanted with respect to the plane joining the axes of the sheaves, for contact with the other block, these faces being normally parallel to each other, and adapted when in contact with each other to slide one on the other, whereby further motion of the sheave centers nearer to each other is possible after contact has occurred.

2. A sheave block assembly according to claim 1, further characterized by the fact that the slant faces stand at an angle of approximately 45° to the plane joining the axes of the sheaves.

3. A sheave block assembly according to claim 1, further characterized by the fact that the slant faces stand at a substantial angle substantially less than 90° to the plane joining the axes of the two sets of sheaves.

HORACE C. BEITZEL.