No. 664,670. Patented Dec. 25, 1900.

H. OLDHAM.

KNIFE FOR HARVESTERS, MOWERS, &c.

(Application filed July 17, 1900.)

(No Model.)

Fig. 1

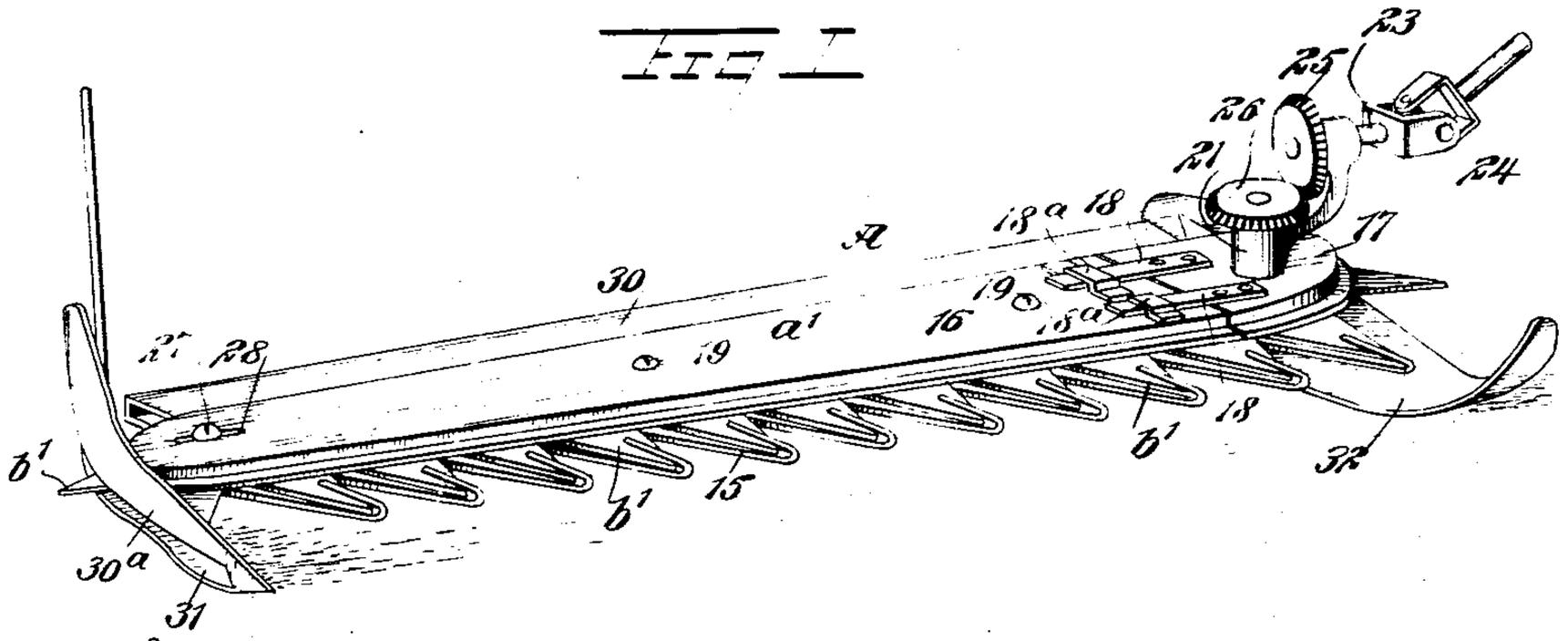

Fig. 2

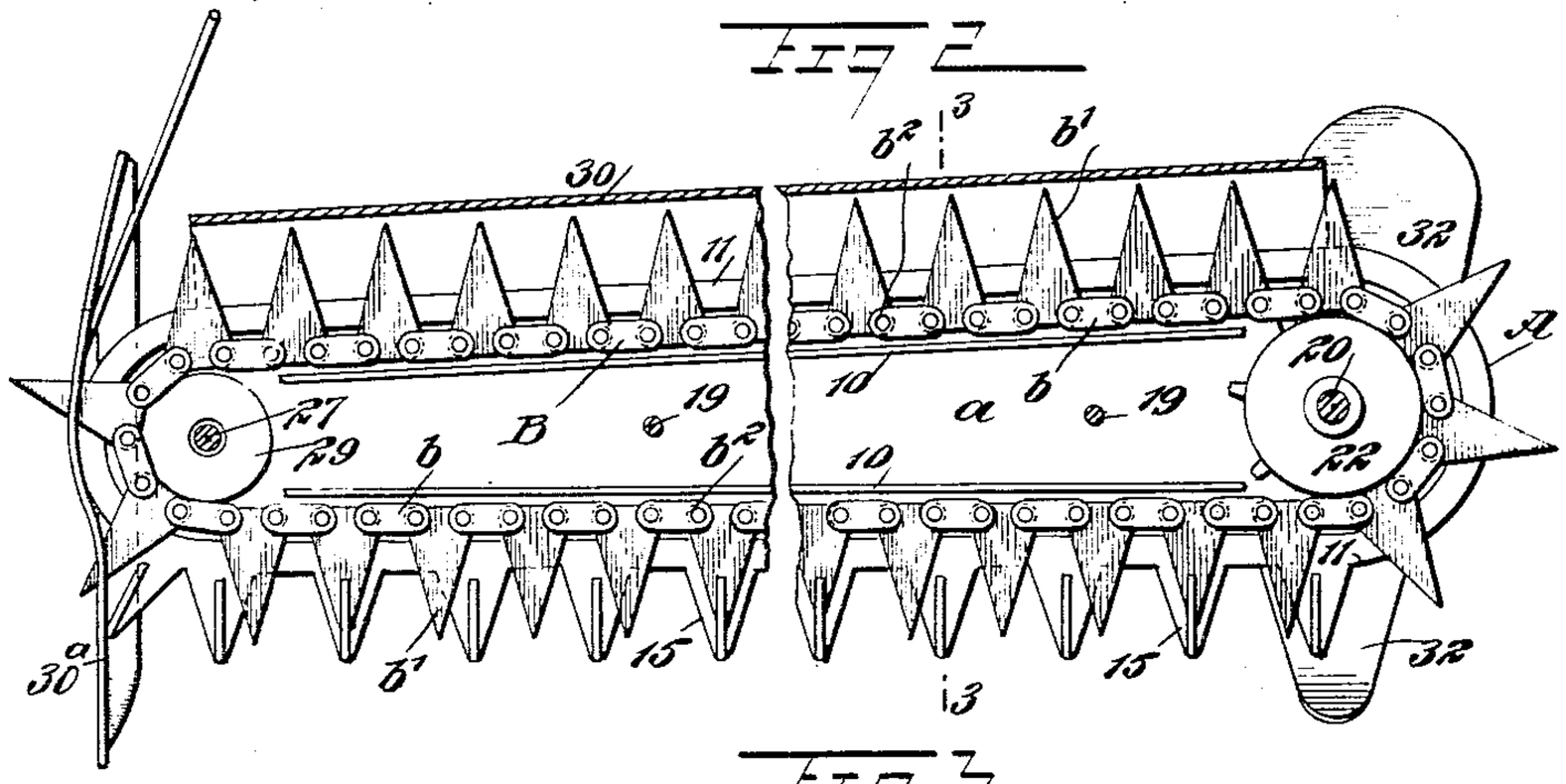

Fig. 3

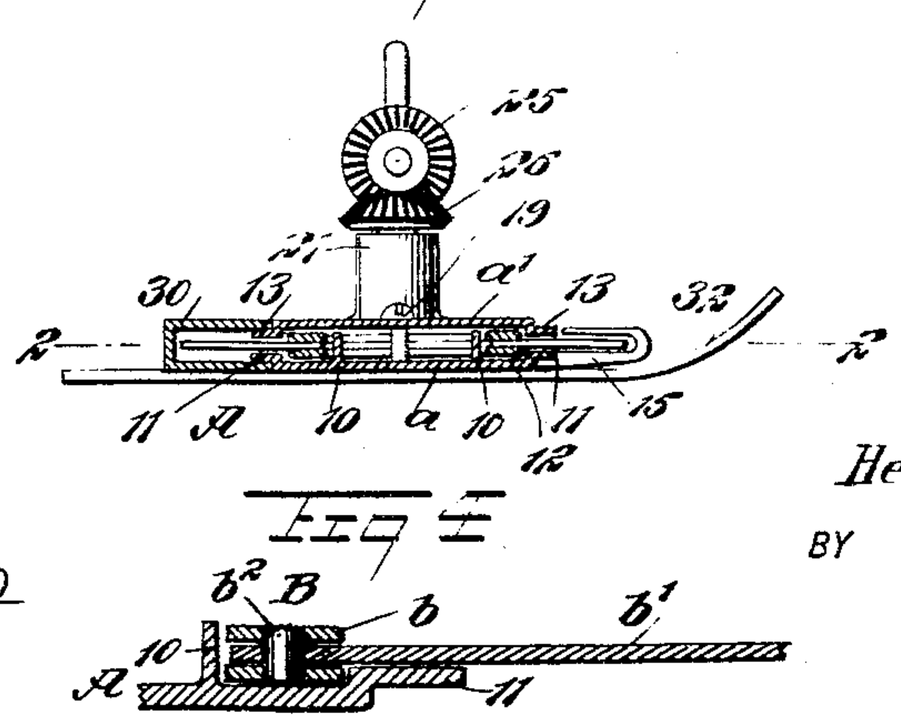

Fig. 4

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HERSCHEL OLDHAM, OF ORLEANS, INDIANA, ASSIGNOR OF ONE-HALF TO JAMES OLDHAM, OF LEIPSIC, INDIANA.

KNIFE FOR HARVESTERS, MOWERS, &c.

SPECIFICATION forming part of Letters Patent No. 664,670, dated December 25, 1900.

Application filed July 17, 1900. Serial No. 23,884. (No model.)

To all whom it may concern:

Be it known that I, HERSCHEL OLDHAM, a citizen of the United States, and a resident of Orleans, in the county of Orange and State of Indiana, have invented a new and Improved Knife for Harvesters, Mowers, and Like Machines, of which the following is a full, clear, and exact description.

My invention relates to the construction of knives or cutters for harvesters, reapers, mowers, lawn-mowers, and like machines.

The purpose of the invention is to provide an endless or chain knife and means for attaching such a knife to machines of the type mentioned.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claim.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of a casing ready for attachment to a machine in which the improved knife is employed. Fig. 2 is a horizontal section taken substantially on the line 2 2 of Fig. 3. Fig. 3 is a transverse section taken substantially on the line 3 3 of Fig. 2, and Fig. 4 is an enlarged transverse section through the lower portion of the casing at the front and through a portion of the knife.

The knife B is an endless or a chain knife, and consists of links *b* and blades *b'*, located one between each two links, the links being recessed to receive the blades and the blades being pivotally attached to the links through the medium of pins b^2, which are not riveted, so that the pins may be readily removed, if necessary. The blades *b'* are triangular and are connected at their bases with the links. The blades are properly beveled at their side edges to produce sharp cutting-surfaces.

A casing A is provided for the above-described endless or chain knife B. This casing is preferably made in two parts, a lower section *a* and an upper section *a'*, and the casing is also preferably made longitudinally tapering, being narrowest at its grain end. The lower section *a* of the casing is provided with two longitudinal ribs 10, secured to its inner surface and located parallel to the side edges a certain distance from said edges. These ribs stop short of the end portions of the bottom section of the casing, and it may be here remarked that the casing A is preferably rounded at its ends.

The bottom section *a* of the casing is provided with a marginal flange 11, which rises above the bottom surface of the section, as shown in Figs. 3 and 4, thus forming substantially a pocket between the marginal flange and the ribs 10. The upper section *a'* of the casing is provided with a marginal flange 13, corresponding to the flange 11 of the lower section *a* of the casing, and the upper flange 13 extends below the plane of the under face of the body of the upper section of the casing, as shown in Fig. 3. The knife-blades are adapted to pass out through the space between the flanges 11 and 13, and these flanges are preferably brought closer together at the front of the casing than at the back. The back space between the flanges is made larger to allow for the slack in the chain or endless knife.

The bottom section *a* of the casing A is provided with guards 15 at the front. These guards are tapering or triangular, and one side edge of each guard is sharpened, so that as the blades *b'* pass the guards a shear cutting action is obtained. The upper section *a'* of the casing is preferably made in two parts, a main part 16, which extends from the grain end to a point near the machine end of the casing, and a second part 17, which is at the machine end of the casing. These two parts are connected by slides 18 on one part, which enter keepers 18^a, secured to the other part, as illustrated in Fig. 1. The part 16 can thus be readily removed and the knife inspected at any time.

The links *b* of the endless or chain knife B travel in the space between the flanges of the sections of the casing and the ribs 10, the lower portions of the links entering the pocket formed between the ribs 10 and the flange 11 of the lower section *a* of the casing. The part 16 of the upper section *a'* of the casing is removably attached to the lower section *a* through the medium of screws or bolts 19 or

their equivalents, and at the wider or inner end of the casing A a shaft 20 is centrally mounted, which shaft extends above the casing through a suitable bearing 21, and a sprocket-wheel 22 is secured on the shaft 20 within the casing A, as is illustrated in Fig. 2. The vertical shaft 20 is driven through the medium of a shaft 23, having a pivotal coupling 24, and this shaft 23 is driven from any source of power on the machine proper. Motion is conveyed from the shaft 23 to the shaft 20 through the medium of bevel-gears 25 and 26, the gear 25 being attached to the shaft 23 and the gear 26 to the shaft 20; but other driving mechanism may be employed. The shaft 23 is made in the two sections illustrated in Fig. 1, which sections are pivotally connected in order to allow the casing A to be raised or lowered to the desired angle to the grass. Any suitable mechanism may be employed to raise or lower the casing.

A bolt 27 is passed through elongated slots 28 in the grain end portion of the casing A, and this bolt is provided with a suitable nut, and a pulley 29 is located on the bolt within the casing. The links connecting the blades with the endless chain receive the teeth of the sprocket-wheel 22, and said links likewise engage with the pulley 29.

It will be observed that as the bolt 27 is adjustable any slack in the endless-chain knife may be taken up. A cover 30 is placed at the rear portion of the casing in order to prevent the cut grass from interfering with the action of the knife, and a grain-board 30^a is located at the outer end of the casing, which grain-board has a longitudinal slot 31 therein, through which the blades of the knife extend, while at the inner end of the casing A a shoe or runner 32 is located. The cover 30 is held in place by being sprung over the flanges 11 13 of sections or plates a a'.

It will be observed that a knife constructed as above set forth is exceedingly effective and that the travel of the knife is the same at all times, since it has no centers to pass, and hence there is no tendency to check or slow up in the travel of the knife. Another advantage consists in the fact that if anything should happen to any of the blades the upper portion of the casing may be removed and the pins connecting the fractured parts with the links may be readily taken out, another blade may be substituted, and the pins again placed in position. Such repairs may be successfully made by any person of ordinary intelligence, thus obviating the necessity of taking the machine to a smith for such repairs.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The combination of the casing having upper and lower plates or sections with flanges at their front and rear edges, said flanges being closer together than the bodies of the sections, an endless-chain knife having blades projecting outwardly between said flanges, a cover fitted over the rear flanges and the rear run of the knife, and means for operating the knife.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HERSCHEL OLDHAM.

Witnesses:
CHARLES P. MUNGER,
CHARLES P. COLLINS.