

No. 768,790.

PATENTED AUG. 30, 1904.

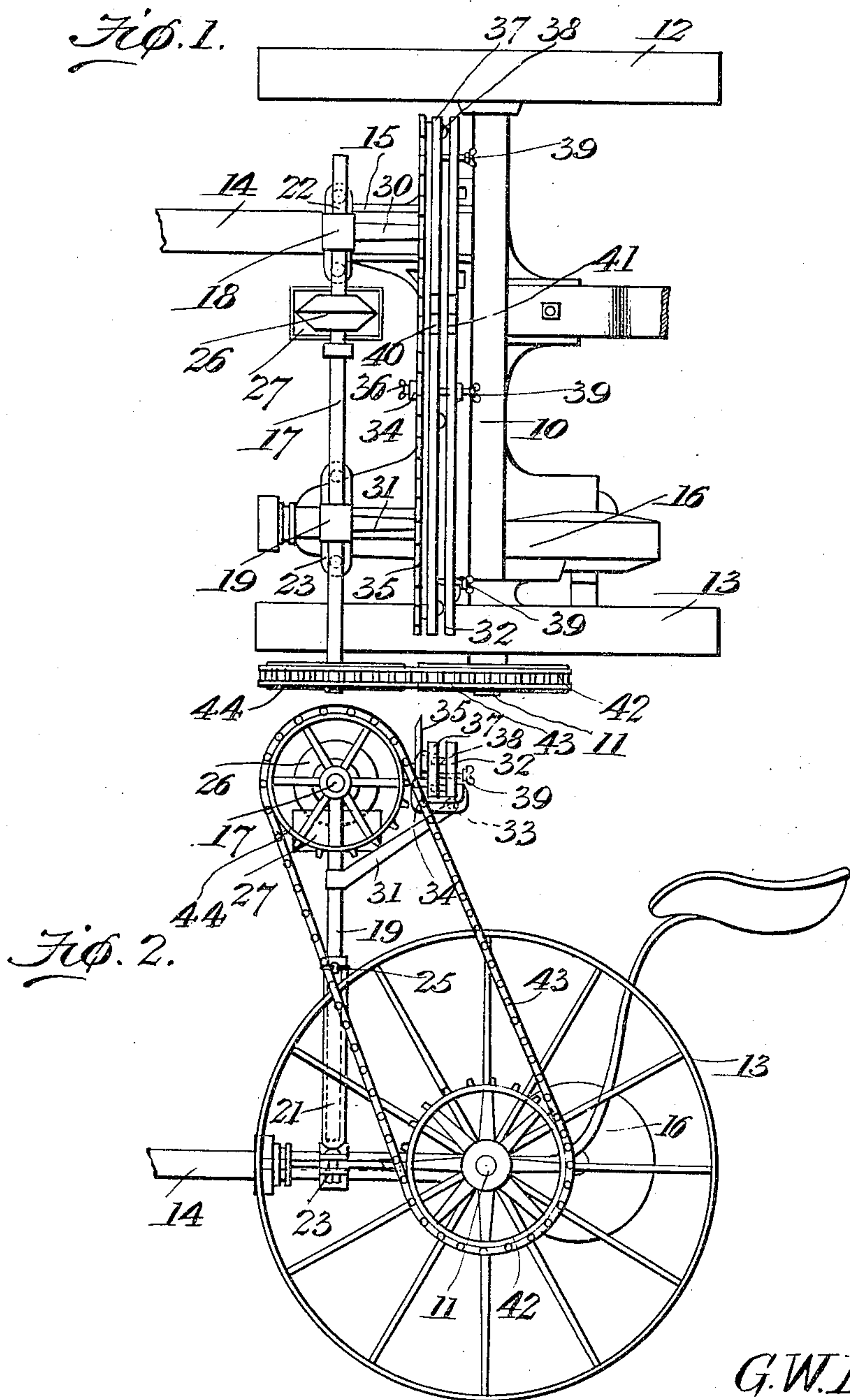
G. W. DURHAM.

SICKLE GRINDING ATTACHMENT TO MOWING MACHINES.

APPLICATION FILED OCT. 13, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



G. W. Durham

Witnesses
E. C. Stewart
C. H. Woodward

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Attorneys

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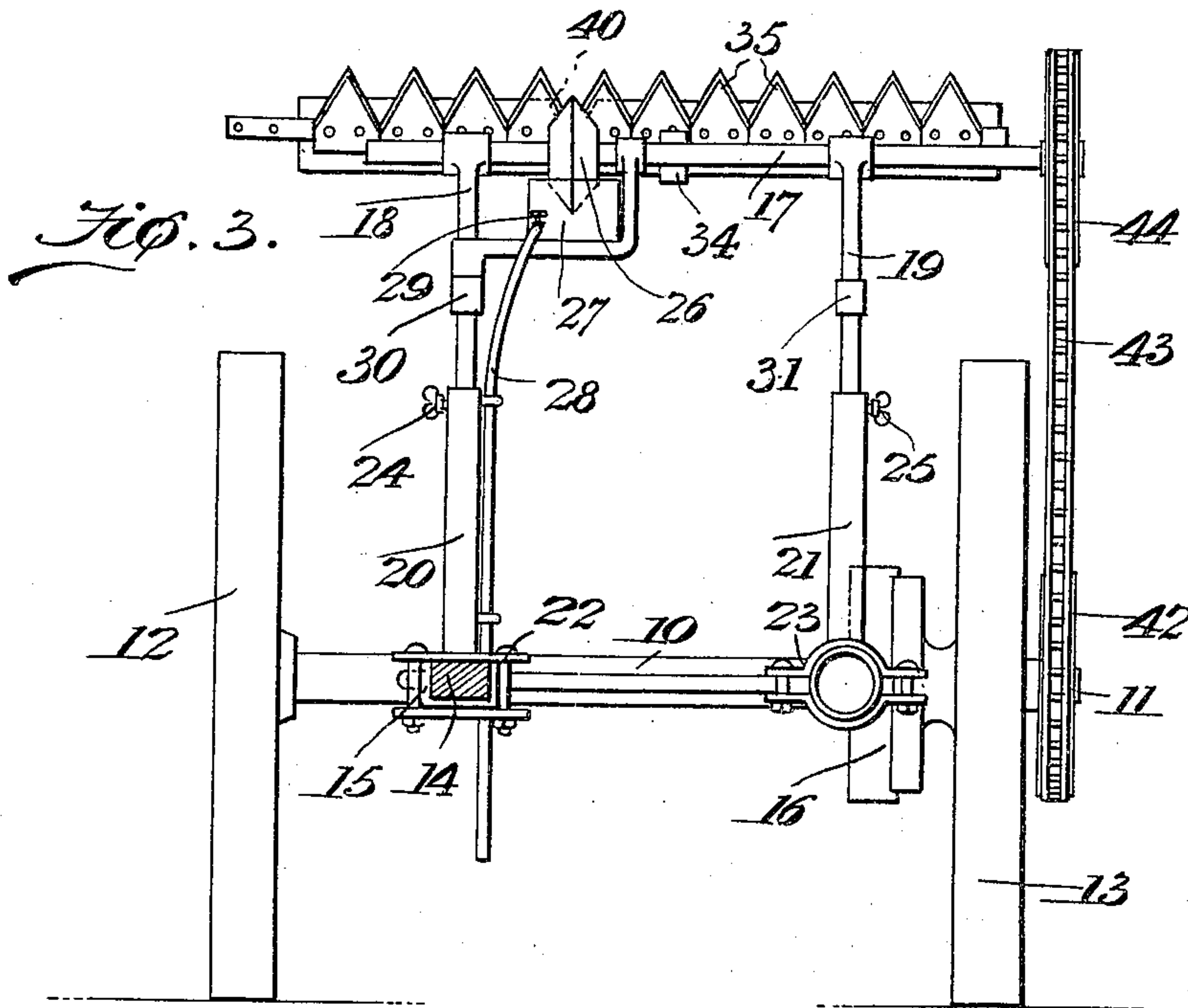
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UNITED STATES PATENT OFFICE.

GEORGE W. DURHAM, OF BURNS, KANSAS, ASSIGNOR OF ONE-HALF TO
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SICKLE-GRINDING ATTACHMENT TO MOWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 768,790, dated August 30, 1904.

Application filed October 13, 1903. Serial No. 176,909. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. DURHAM, a citizen of the United States, residing at Burns, in the county of Marion and State of Kansas, have invented a new and useful Sickle-Grinding Attachment to Mowing-Machines, of which the following is a specification.

This invention relates to devices for grinding the sickle-knives of mowing-machines, and has for its object to provide a device of this character which shall be simple in construction, easily applied to different forms of machines, and which will operate to grind the knives of a duplicate sickle-bar while the machine is in operation.

The invention consists in certain novel features of construction, as hereinafter shown and described, and specified in the claims following.

In the drawings illustrative of the invention, in which corresponding parts are denoted by like designating characters, Figure 1 is a plan view. Fig. 2 is a side elevation, partially in section, of a mowing-machine frame with the improvement attached. Fig. 3 is a front elevation.

The improved grinding mechanism may be applied to any of the various forms of mowing-machines manufactured by slight and immaterial modifications in the connecting means, but for the purpose of illustration is shown applied to a conventional form of mowing-machine frame, 10 representing the central main axle-sleeve, 11 the axle carrying the traction-wheels 12 13, 14 the tongue supported upon a bracket 15, extending from the sleeve 10, and 16 the housing for the driving-gear. The sickle-frame and sickle are not illustrated, as they form no part of the present invention.

The improved device comprises a shaft 17, supported for rotation in standards 18 19, which are in turn adjustably supported in tubular members 20 21, connected by clamps 22 23, respectively, to the tongue 14 and its bracket 15, and the drive-mechanism housing 16, as shown. The members 20 21 are provided, respectively, with set-screws 24 25, by which the standards 18 19 may be adjusted vertically to regulate the position of the shaft 17. The axle 11 is extended at one end and pro-

vided with a chain-wheel 42, from which a chain 43 leads to a chain-wheel 44 on the shaft 17 to provide for the rotation of the latter from the axle. The grindstone 26 is of the usual convex form and is supported by the shaft 17, and extending from the bracket member 18 is a water-receptacle 27, in which the grindstone runs to supply the necessary moisture thereto. A drain-pipe 28, provided with a stop-valve 29, is connected with the receptacle 27 to conduct the water therefrom when not required and prevent it dripping upon the frame of the machine. Extending from the standards 18 19 are brackets 30 31, having a plate 32 hinged to their extremities at 33, as shown. Attached to this plate 32 is a bracket 34, forming a rest for the lower or "heel" edge of the sickle-bar (indicated as a whole at 35) and held in place thereon by a set-screw 36.

At the rear of the sickle-bar a plate 37 is disposed and provided with rollers 38, operating on the plate 32, as shown. A plurality of set-screws 39 operate through the plate 32 against the plate 37 and serve to bind the parts together. The plates 32 37 are provided with registering notches 40 41, corresponding to the spaces between the sickle-knives, as shown.

The lengths of the brackets 30 31 and the relative location of the grindstone will be so proportioned that when the coupled plates 32 37 are rotated upon the pivots 33 the adjacent inclined faces of two of the sickle-knives will engage the grindstone, and when the grinding is completed the plate 37, together with the sickle-bar, will be adjusted longitudinally relative to the plate 32 to bring the next pair of knives into proper position, and so on until all the knives are ground.

It will be understood by this arrangement that when the connected plates are thrown rearwardly upon the pivots 33 the device will be thrown out of action relative to the grindstone and operative only when adjusted to its forward positions.

The parts are very simple in construction, easily applied and operated, and may be readily adapted to all the various forms of mowing-machines manufactured.

In operating the device one of the duplicate

sickle-bars which are generally furnished with each machine is placed in position, as shown, and the grinding accomplished while the machine is in operation, thus saving time and labor, as the only time lost is in changing the sickle-bars, the removed and worn sickle-bar being placed in the device and ground while the newly-ground one is being operated. Thus a newly-ground sickle-bar is constantly available for insertion when required.

Having thus described the invention, what I claim is—

1. The combination with a mowing-machine, of a driven shaft supporting a grinding element, standards supporting the shaft, guides with which the standards are adjustably connected, means for adjustably connecting the guides to the frame of the machine, brackets projecting laterally from the standards, and sickle-bar-clamping means supported by the brackets.

2. The combination with a mowing-machine, of brackets connected with the frame thereof, a shaft mounted for rotation in said brackets and carrying a grinding means, arms extending laterally from said brackets and having a plate hingedly connected therewith, a sickle-bar-supporting bracket extending laterally from said plate, a roller-carrying plate disposed adjacent said hinged plate with the rollers carried thereby operating on said hinged plate, and means for binding said plates together, said plates having registering notches corresponding with the spaces between the sickle-bars.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

GEORGE W. DURHAM.

Witnesses:

LEN HARSH,
F. G. CAMPBELL.