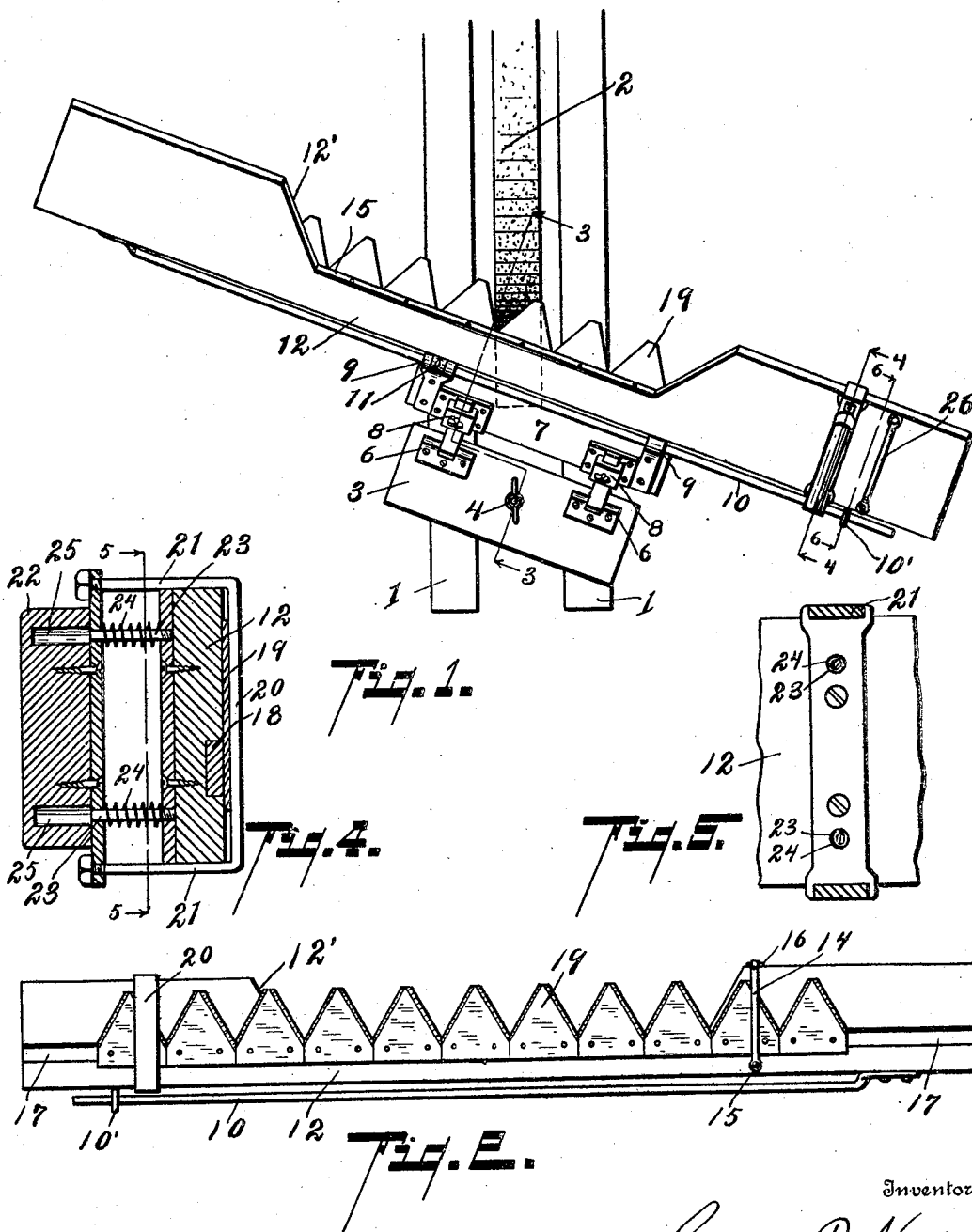


G. B. HUDSON.
GRINDER FOR CUTTER BARS.
APPLICATION FILED JULY 16, 1909.

937,939.

Patented Oct. 26, 1909.
2 SHEETS—SHEET 1.



Witnesses
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384

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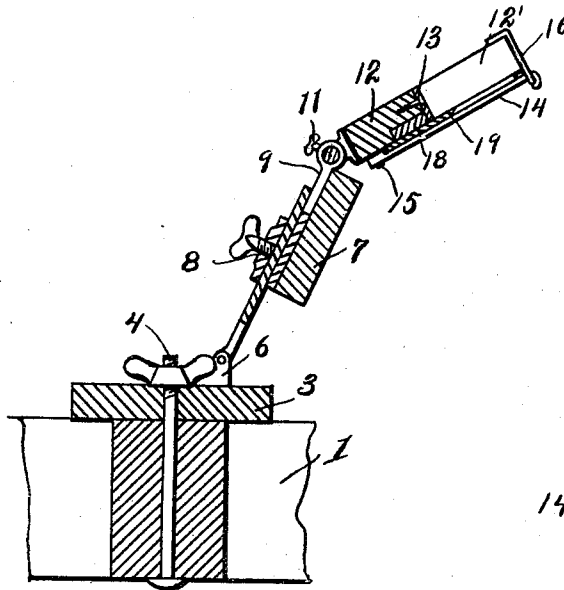


Fig. 5.

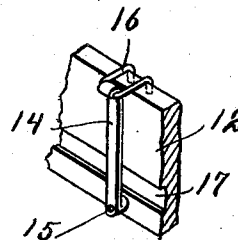


Fig. 7.

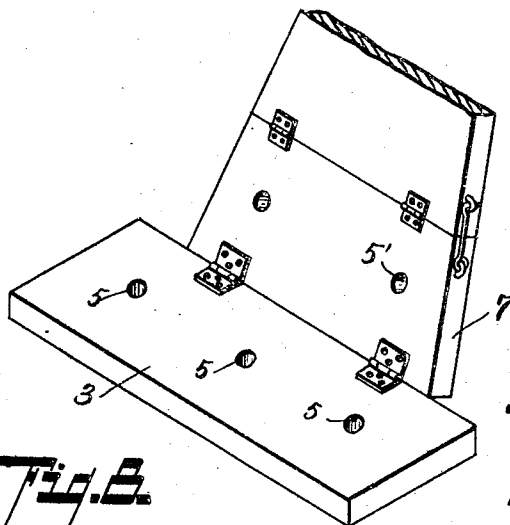


Fig. 6.

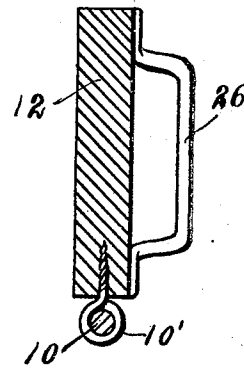


Fig. 8.

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UNITED STATES PATENT OFFICE.

GEORGE B. HUDSON, OF DECATUR, MICHIGAN.

GRINDER FOR CUTTER-BARS.

937,939.

Specification of Letters Patent.

Patented Oct. 26, 1909.

Application filed July 16, 1909. Serial No. 507,997.

To all whom it may concern:

Be it known that I, GEORGE B. HUDSON, a citizen of the United States, residing at Decatur, Michigan, have invented certain new and useful Improvements in Grinders for Cutter-Bars, of which the following is a specification.

This invention relates to improvements in grinders for cutter bars for mowers, reapers and like machines.

The objects of the invention are; first, to provide an efficient holder adapted for use as an attachment to a grind stone, or to an emery wheel where it is desired to use an emery wheel. Second, to provide an efficient and economical adjusting means for the holder of such a grinding device. Third, to provide improved clamping means for retaining the sickle bar in the holder adjustably so that it can be readily shifted after one or more of the cutters have been ground.

Further objects relating to details will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification.

The structure described constitutes one effective embodiment of my invention.

Other embodiments would be readily devised by those skilled in the art.

The invention is clearly defined and pointed out in the claims.

A structure constituting an effective and preferred embodiment of the features of my invention is clearly illustrated in the accompanying drawing, forming a part of this specification in which;

Figure 1 is a plan view of a portion of a grind stone with one of my improved grinder devices in position. Fig. 2 is an inverted plan view of the cutter bar holder detached with a cutter bar in place, the view being taken at right angles to under side of said holder. Fig. 3 is an enlarged detail sectional elevation view taken on the irregular line 3—3 of Fig. 1, looking toward the left. Fig. 4 is an enlarged detail sectional view on line 4—4 of Fig. 1, looking toward the left, showing details of the construction of the main clamp. Fig. 5 is a detail sectional view, taken on line 5—5 of Fig. 1, further illustrating said details. Fig. 6 is an enlarged transverse detail sectional view taken on line 6—6 of Fig. 1, looking toward

the right, showing details of the handle, guide rod, and support. Fig. 7 is an enlarged detail perspective view of one of the auxiliary clamps. Fig. 8 is a detail perspective view of a modification of the base and adjusting means.

In the drawings, similar reference characters refer to similar parts throughout the several views, and the sectional views are taken looking in the direction of the little arrows at the ends of the section lines.

Considering the numbered parts of the drawing, 1 is the frame of a grind stone of the usual construction; 2 is the grinding wheel, which may be either a grind stone or an emery wheel, which is carried by said frame 1. Secured to said frame 1 is the base 3 of my cutter or grinder device, the same being secured by bolt 4 which is provided with a thumb nut which extends through one of the series of holes 5, the base being adjustable on the frame 1 by means of this series of holes 5. On this base 3 there are a plurality of hinges 6, which are secured to the intermediate swinging bar 7 by adjusting thumb screws 8. To this bar 7 is secured a number of eyes 9, which embrace the guide rod 10 which is secured to the cutter bar holder 12.

The cutter bar holder is adjustable by means of the collar and set screw 11, which is on said guide rod 10 and embraced by one of the eyes 9. The guide rod 10 is secured to the holder 12 by suitable screws at one end and by a screw eye 10' at the opposite end. The cutter bar holder is provided with a pivoted clamping finger 14 at one side which is pivoted at 15 toward one end of the holder, and is provided with a hook 16 to engage and lock over the upper edge of the holder. A groove 17 is provided in the holder to receive the back 18 of the cutter bar whereby the same may be guided back and forth so that the cutters 19 of the cutter bar may be exposed for grinding. The holder 12 is cut away at 12', and a metal strip 13 embraces the forward side of the back 18 of the cutter bar whereby the entire cutter may be ground without obstruction from the holder. The cutter bar is further held in place by a main clamp 20, which is extended at 21—21 around the holder. The handle 22 is provided at the back side for operating the clamp and for manipulating or assisting in manipulating the cutter bar holder. Pins 23 are secured by suitable

means to the back of the holder and extend upwardly and rearwardly at right angles therefrom. Holes 25—25 are provided in the handle to receive these pins so that the handle can reciprocate upon the same. The coiled springs 24 are on the pins 23 and are interposed between the handle and the holder to put tension on the clamp. A second handle 26, shown in Figs. 1 and 6, is arranged at one side of the main clamp, so that the operator can with one hand by grasping both handles instantly release the cutter bar so that it can be adjusted back and forth in the holder. This is a matter of great convenience as it enables the cutter bar to be instantly shifted in the holder to bring a new set of the cutters within range of manipulation so that they can be presented to the grinding wheel one at a time; and it will be seen that the holder can be quickly adjusted to move the bar step by step to grind the several cutters which this broader adjustment has brought within range of the machine. The angle of presentation of the cutter to the grinder is secured by loosening bolt 4 and swinging the base 3 of the machine to place the cutter bar at the proper angle, and it is very clear that the holder can be put at either side and that same can be very readily controlled by one hand of the operator while he is turning the crank of the grinder with the other so that the cutter is adapted to use on grind stones of the usual crank construction.

In Fig. 8 is shown a modification of the adjusting means for varying the height of the holder in relation to the base. In place of providing adjustable hinge connection, I have provided an intermediate bar 7 with holes 5' so that it can be bolted to frame of the machine in place of the base 3.

From my description it will be clear that my improved grinder can be considerably modified without departing from my invention.

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

1. In a sickle bar grinding device, the combination of a suitable base with means of attaching it adjustably to the frame of the grind stone; an intermediate bar; a hinge connection between said base and said bar, adjustably connected to said bar by suitable set screws; a cutter bar holder to receive said cutter bar; a pivoted clamp to swing into engagement with the said cutter bar with retaining hook thereon; a main clamp for retaining said cutter bar, embracing said holder and said cutter bar; a handle on said clamp; springs for putting tension on said clamp; a fixed handle in proximity to said clamp to assist in manipulating the said clamp; guide eyes on the said intermediate bar; a pivot guide rod on said holder ar-

ranged through the guide eyes on the intermediate bar; an adjustable collar on said rod to locate the holder, co-acting as specified.

2. In a sickle bar grinder device, the combination of a suitable base with means of attaching it adjustably to the frame of the grind stone; an intermediate bar; a hinge connection between said base and said bar; a cutter bar holder to receive said cutter bar; an auxiliary pivoted clamp to engage said cutter bar; a main clamp for retaining said cutter bar, embracing said holder and said cutter bar; a handle on said clamp; springs for putting tension on said clamp; a fixed handle in proximity to said clamp to assist in manipulating said clamp; guide eyes on said intermediate bar; a pivot guide rod on said holder arranged through the guide eyes on the intermediate bar; an adjustable collar on said rod to locate the holder, co-acting as specified.

3. In a sickle bar grinder device, the combination of a suitable base with means of attaching it adjustably to the frame of the grind stone; an intermediate bar; a hinge connection between said base and said bar; a cutter bar holder to receive said cutter bar; an adjustable clamping means to clamp said cutter bar in said holder; guide eyes on said intermediate bar; a pivot guide rod on said holder arranged through the guide eyes on the intermediate bar; an adjustable collar on said rod to locate the holder, co-acting as specified.

4. In a sickle bar grinder device, the combination of a suitable base with means of attaching it adjustably to the frame of the grind stone; an intermediate bar; a hinge connection between said base and said bar; a cutter bar holder to receive said cutter bar; a pivoted clamp to swing into engagement with the said cutter bar with retaining hook thereon; a main clamp for retaining said cutter bar, embracing said holder and said cutter bar; a handle on said clamp; springs for putting tension on said clamp; a fixed handle in proximity to said clamp to assist in manipulating said clamp; a pivot connection between said intermediate bar and said holder, one member of which is longitudinally adjusted in its relation to the other, co-acting as specified.

5. In a sickle bar grinder device, the combination of a suitable base with means of attaching it adjustably to the frame of the grind stone; an intermediate bar; a hinge connection between said base and said bar; a cutter bar holder to receive said cutter bar; a pivoted clamp to swing into engagement with the said cutter bar with retaining hook thereon; a main clamp for retaining said cutter bar, embracing said holder and said cutter bar; a handle on said clamp; springs for putting tension on said clamp; a fixed handle

in proximity to said clamp to assist in manipulating said clamp; a pivot connection between said intermediate bar and said holder:

6. In a sickle bar grinder, the combination
5 of a suitable base for attachment to the frame of a grind stone; an intermediate bar pivoted to said base; a cutter bar holder pivoted to said intermediate bar by a pivot connection, one member of which is adjustable in its relation to the other; a spring
10 clamp on said holder, with a handle for manipulating same, co-acting as specified.

7. In a sickle bar grinder the combination of a suitable base for attachment to the

frame of a grind stone; an intermediate bar
15 pivoted to said base; a cutter bar holder pivoted to said intermediate bar by a pivot connection, one member of which is adjustable in its relation to the other; a clamp on said
20 holder, co-acting as specified.

In witness whereof, I have hereunto set my hand and seal in the presence of two witnesses.

GEORGE B. HUDSON. [L.S.]

Witnesses:

F. GERTRUDE TALLMAN,
MABEL EASTERBROOK.