(No Model.)

W. F. KENDRICK.

CUTTER BAR.

No. 383,057. Patented May 15, 1888.

Fig. 1.

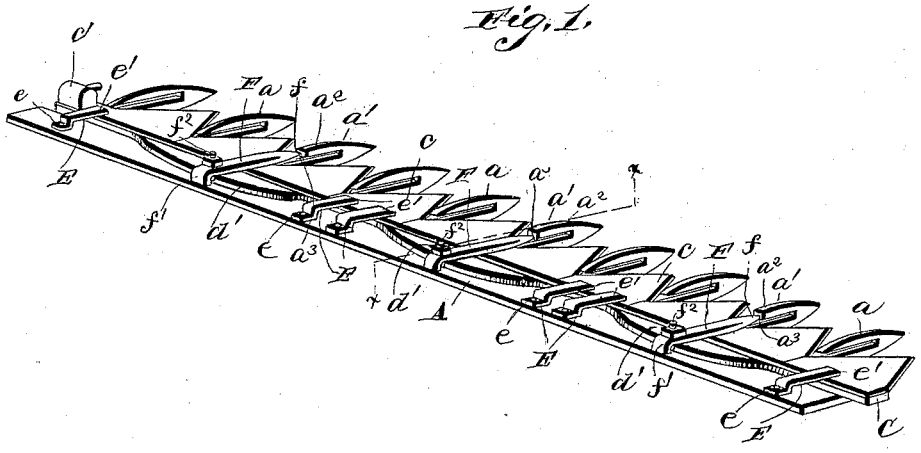


Fig. 2.

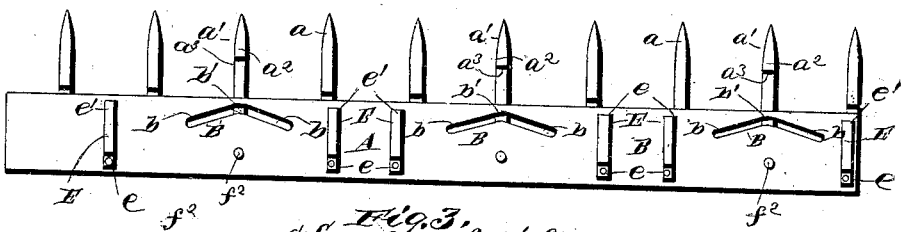


Fig. 3.

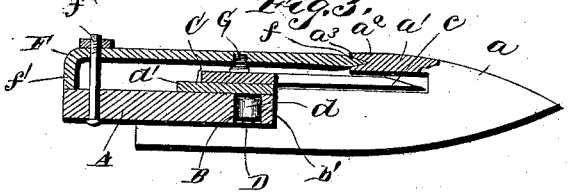


Fig. 4.

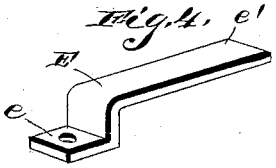
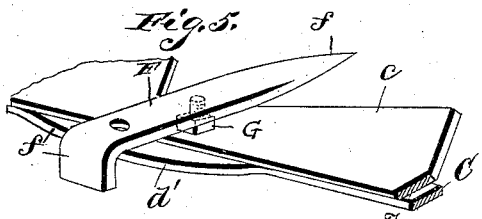


Fig. 5.



Witnesses.

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UNITED STATES PATENT OFFICE.

WILLIAM FRANCIS KENDRICK, OF WINFIELD, IOWA, ASSIGNOR OF ONE-HALF TO H. L. GLASS, OF SAME PLACE.

CUTTER-BAR.

SPECIFICATION forming part of Letters Patent No. 383,057, dated May 15, 1888.

Application filed December 16, 1887. Serial No. 258,119. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM FRANCIS KENDRICK, a citizen of the United States, residing at Winfield, in the county of Henry and State of Iowa, have invented new and useful Improvements in Cutter-Bars, of which the following is a specification.

The invention relates to improvements in cutter-bars; and it consists in the construction and novel combination of parts, hereinafter described, and pointed out in the appended claims.

In the accompanying drawings, Figure 1 represents a perspective view of a cutter-bar and attachments embodying the said improvements. Fig. 2 represents a plan view of the finger-bar detached. Fig. 3 is a transverse section of the two on the line *x x* of Fig. 1. Fig. 4 is a perspective view of one of the angular plates detached. Fig. 5 is a detail perspective view of one of the holding plates and a portion of the cutter-bar and the cutting apparatus.

Referring to the drawings by letter, A designates a finger-bar having the guard-fingers *a a* secured to it in the usual manner. Certain of the guard-fingers *a'* have their guards a^2 cut short, and recesses a^3 are made in the squared ends of said guards, for a purpose hereinafter explained.

B B are cam or inclined slots made in the finger-bar to receive the pins or rollers on the cutter-bar. The said slots each consist of two equal rectilinear legs, *b b*, standing rearward from their obtuse meeting angle *b'*, which is preferably about from one hundred and twenty degrees to one hundred and thirty-five degrees. Three cam-slots are employed for the smaller-sized cutter-bars, but for the larger size may be four in number.

C is the cutter-bar provided with the usual knives, *c*, and having on its inner end the head *c'* for the attachment of the driving-pitman.

D D are pins depending from the under side of the cutter-bar, spaced to register with the obtuse-angled cam-slots and having anti-friction rollers *d* to enter and move in said slots, which have their ends and meeting angle rounded to allow the rollers to move easily and without jar or undue wear.

The rear edge of the cutter-bar is rounded out and widened, as at *d'*, (see Figs. 1 and 3,) in rear of the pins D, so that the cam-slots will be at all times covered and no foreign matter be introduced therein to clog the rollers *d*.

E E are angular retaining-bars, having their feet *e* bolted to the finger-bar in rear of the cutter-bar, and the arms *e'* extending forward over the latter. There are preferably two of these bars between each two of the cam slots, as shown in Fig. 2, and one between each end of the finger-bar and the adjacent cam-slot.

F F are rectangular plates, having their front ends, *f*, pointed to enter the recesses a^3 in the rear ends of the short guards of the corresponding fingers *a'*, and in the rear ends of the arms *f'*, bent downward and resting upon the finger-bar in rear of the cutter-bar. The said plates are kept in position by the front ends in said recesses a^3, and by the bolts f^2, which pass up through the finger-bar and are engaged by nuts above the said plates.

G G are set-screws, which enter tapped recesses in the under surface of the holding-plates F, and have their heads resting upon the top of the knives *c* at the rear portion thereof.

These plates F are secured to the finger-bar and guard-fingers *a'* in such positions as to cross the meeting angles of the cam-slots, so that the set-screws not only hold the cutter-bar down to the finger-bar and take up the wear of the two, but more particularly prevent the anti-friction rollers from rising out of the cam-slots.

It is evident that as the cutter-bar reciprocates the anti-friction rollers, moving in the cam-slots, will give the said bar a front and rear motion and cause the knives to have a very effective shear.

In my experience I have found that there is no more positive cut than the draw cut. I have tested a cam-slot in the form of an arc of a circle, but no motion is so easy and so positive as that produced by the obtuse-angle cam-slot.

Having thus described my invention, I claim—

1. The combination, with the cutter-bar, the finger-bar, and the guard-fingers *a'*, having

short guards and recesses a^3 in the rear ends of said guards, of the holding-plates having their points engaging said recesses and having their rear ends bent down and bolted to the finger-bar, and the set screws engaging tapped recesses in the lower surface of the holding-plates and bearing on the upper surface of the cutter-bar, as set forth.

2. The combination, with the cutter-bar, the pins depending therefrom and having anti-friction rollers on their ends, and the finger-bar having the obtuse-angled cam-slots to receive said pins, of the plates F, secured to the finger-bar and extending over the cutter-bar and across the meeting angle of the cam-slots, and the set-screws engaging the under side of said plates and bearing on the upper side of the cutter-bar, substantially as described.

3. The combination of the finger-bar having the obtuse-angled cam-slots and the cutter-bar having the pins depending therefrom and engaging said slots, and the widened portions d' in rear of said pins, as set forth.

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

WILLIAM FRANCIS KENDRICK.

Witnesses:
E. P. CORBIT,
J. W. HANNA.