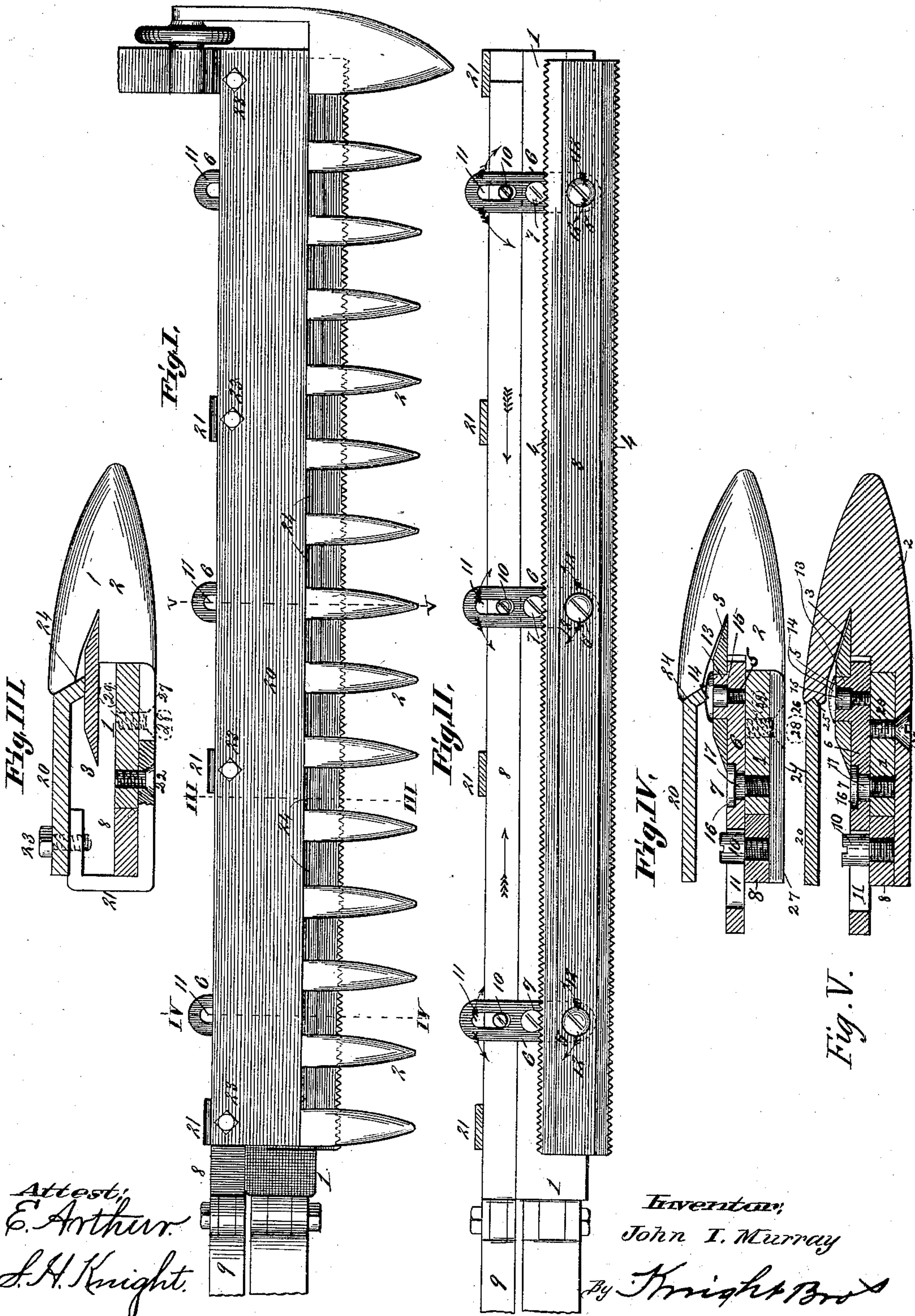


(No Model.)

J. I. MURRAY.
CUTTER BAR FOR REAPERS AND MOWERS.

No. 401,714.

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UNITED STATES PATENT OFFICE.

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CUTTER-BAR FOR REAPERS AND MOWERS.

SPECIFICATION forming part of Letters Patent No. 401,714, dated April 16, 1889.

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To all whom it may concern:

Be it known that I, JOHN I. MURRAY, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Cutting Apparatus for Reapers and Mowers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, and in which—

Figure I is a top view of my improved cutting apparatus. Fig. II is a similar view with the top plate and guard-fingers removed. Figs. III and IV are respectively transverse sections taken on lines III III and IV IV, Fig. I. Fig. V is a transverse section on line V V, Fig. I.

My invention relates to an improvement in cutting apparatus for reapers and mowers; and my invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Referring to the drawings, 1 represents the finger-bar, to which rear extension-straps, 27, of the guard-fingers 2 are secured by screw-bolts 28, which are countersunk in said straps and engage in the screw-sockets 29 in the finger-bar, or may be secured in any other suitable manner, and which finger-bar is by any suitable manner connected to the reaper or mower.

3 represents the knife, which I prefer to provide with a cutting-edge, 4, on each edge, as shown in Fig. II, so that it is reversible. This knife is secured by means of screws or rivets 5 to the ends of arms 6, pivoted to the bar 1 by means of screws 7. (See Figs. II and IV.) Secured to the rear ends of the arms 6 is a bar, 8, which is reciprocated by means of a pitman, 9, that connects it to the machine. The connection between the arms and the bar 8 is made by means of screws or rivets 10, fitting in slots 11 in the arms. It will thus be seen that as the bar 8 is reciprocated or moved back and forth the knife 3 will be reciprocated, and it will have a shearing cut imparted to it by moving rearward and forward, as it moves back and forth, endwise. (See the arrows 12, Fig. II.)

To afford a secure connection between the arms 6 and the knife 3, I form studs 13 on the arms, (see Fig. IV,) which enter holes in the

knife just large enough to receive them, and I form the screws 5 with enlarged heads 14, that cover and extend beyond the studs 13, so as to lap onto the knife and hold the latter from upward movement on the studs, and to allow the screws to be turned down tight without binding the knife I form the screws with enlargements 15, fitting in enlargements of the upper portion of the holes in the arms, into which they fit.

For the purpose of making a secure connection between the arms 6 and the bar 1, I form the screws 7 with enlarged heads 16, (see Fig. IV,) which are countersunk into the arms, and beneath the heads the screws have shoulders or enlarged portions 17, against which the arms bear.

Above the knife is a plate, 20, whose rear edge is secured to the finger-bar by means of U-shaped straps 21, (see Figs. I and III,) which are connected at their lower ends to the finger-bar by means of screws 22, and to the upper ends of which are connected the plates 20 by means of bolts 23. These straps are separate from the extension straps or pieces 27 of the guard-fingers, the straps or pieces 27 being shorter than where the said straps 21 do not occur. The forward edge of the plate is formed with downturned flanges 24 between the guard-fingers (see Figs. I and III) and with V-shaped edges 25 (see Fig. IV) opposite the guard-fingers, which fit in notches 26, made in the guard-fingers, forming a tongue-and-groove connection. This prevents the liability of the lateral swinging of the guard-fingers as they become worn.

I claim as my invention—

1. In a cutting apparatus for reapers and mowers, the combination of the finger-bar, guard-fingers secured to the bar, arms pivoted to the bar, a knife pivoted to the forward ends of the arms, and a reciprocating bar pivoted to the rear ends of the arms, and by which the knife is operated, substantially as and for the purpose set forth.

2. In a cutting apparatus for reapers and mowers, the combination of the finger-bar, guard-fingers secured to the bar, a single reciprocating knife extending lengthwise of the cutting apparatus, an operating-bar parallel with and connected with said knife, and mech-

anism for imparting the necessary motions to said knife from said operating-bar, substantially as set forth.

3. In a cutting apparatus for reapers and
5 mowers, the combination of the finger-bar, guard-fingers secured to the bar, arms pivoted to the bar, a knife pivoted to the arms, and a reciprocating bar pivoted to the arms for operating the arms, the connection be-
10 tween the knife and arms being made by means of studs 13 and screws 5, having enlarged heads 14, substantially as and for the purpose set forth.

4. In a cutting apparatus for reapers and
15 mowers, the combination of the finger-bar, guard-fingers secured to the bar, arms pivoted to the bar, a knife pivoted to the forward ends of the arms, and a bar pivoted on the rear ends of the arms to operate the knife,
20 the arms being connected with the finger-bar by means of screws 7, having enlarged heads 16 and shoulders 17, substantially as and for the purpose set forth.

5. In a cutting apparatus for reapers and mowers, the combination of the finger-bar, 25 guard-fingers secured to the bar, a knife, means for operating the knife, and a cap-plate, 20, having flanges 24 fitting between the guard-fingers and the tongue-and-groove connection with the upper rear extensions of the guard- 30 fingers, substantially as and for the purpose set forth.

6. In a cutting apparatus for reapers and mowers, the combination of the finger-bar, guard-fingers secured to the bar, a knife, 35 means for operating the knife, the main plate 20, U-shaped straps 21, connecting plate 20 and the finger-bar at the rear, screws 22, passing through the finger-bar and straps, and bolts 23, passing through the upper ends of 40 straps 21 and the rear end of the plate 20, substantially as and for the purpose set forth.

JOHN I. MURRAY.

In presence of—

JOS. WAHLE,

EDWD. S. KNIGHT.