

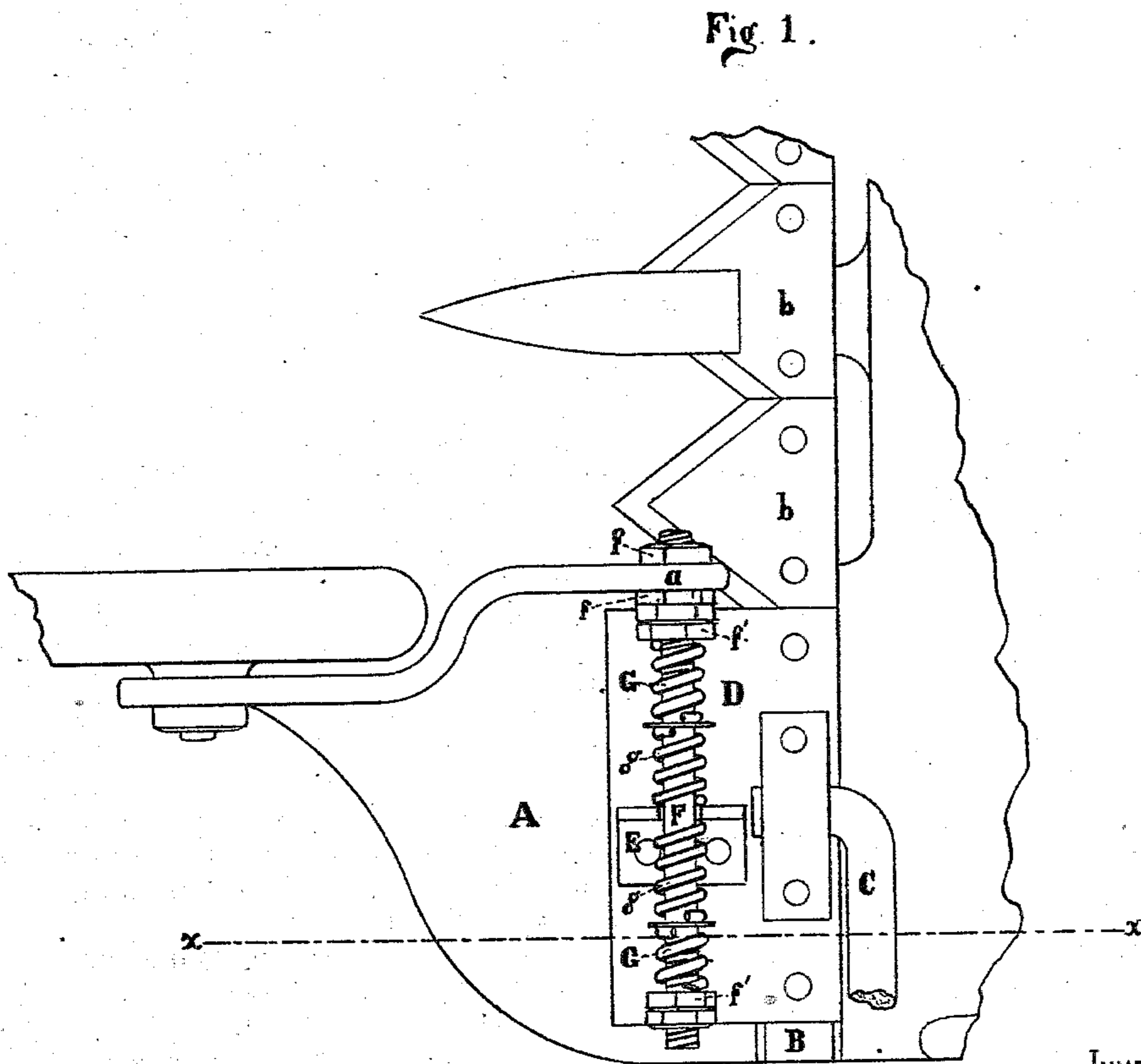
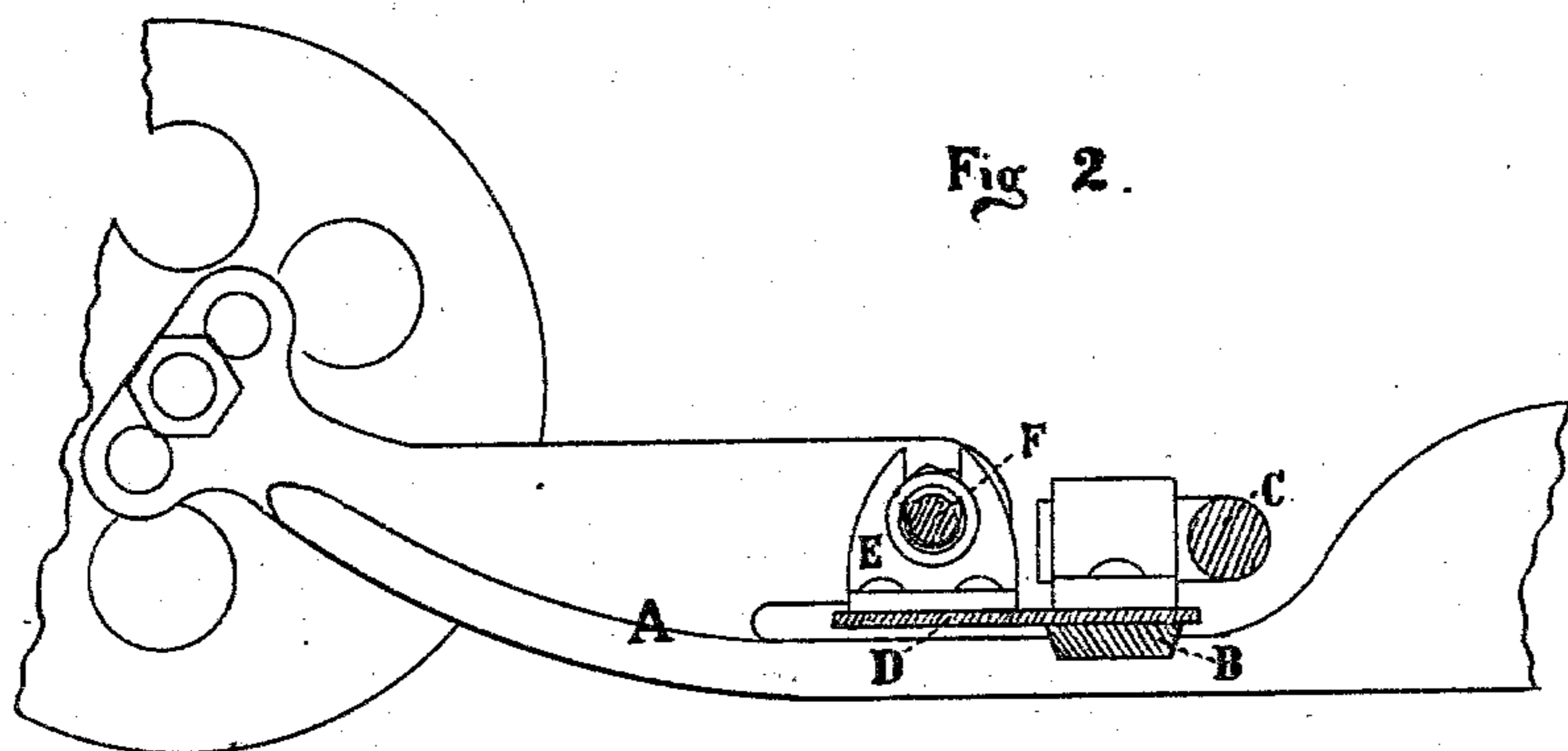
(No Model.)

E. J. BLOOD.

ELASTIC CUSHION FOR CUTTER BARS.

No. 280,901.

Patented July 10, 1883.



WITNESSES.

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UNITED STATES PATENT OFFICE.

EDWIN J. BLOOD, OF CHICAGO, ILLINOIS.

ELASTIC CUSHION FOR CUTTER-BARS.

SPECIFICATION forming part of Letters Patent No. 280,901, dated July 10, 1883.

Application filed July 12, 1882. (No model.)

To all whom it may concern:

Be it known that I, EDWIN J. BLOOD, of the city of Chicago, county of Cook, and State of Illinois, have invented a new and useful
5 Improvement in Elastic Cushions for Cutter-Bars, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to the application of
10 elastic cushions to cutter-bars for the purpose of deadening the concussion arising from their rapid reciprocation where each alternate motion of the cutter-bar compresses a cushion, the reaction of which upon the bar prevents
15 the return-stroke of the pitman from producing that concussion which would otherwise ensue. In my present invention I accomplish this purpose by providing the cutter-bar with an arm projecting therefrom and rigidly con-
20 nected thereto, so that each motion of the bar will press the arm against and compress an elastic cushion, the reaction of which upon the arm will produce its effect upon the cutter-bar; and my invention consists in the means
25 for supporting the elastic cushions and in the arrangement of the various parts.

In the drawings, Figure 1 is a top view of the device, and Fig. 2 is a vertical section taken on the line *x x* of Fig. 1.

30 A represents the shoe of a mowing or harvesting machine.

B represents the cutter-bar, and *b b* the cutters.

35 C is the pitman, engaging an eye-piece riveted to the cutter-bar.

D is a plate riveted to the head or extremity of the cutter-bar, and on which in turn is riveted the projecting arm or bracket E, provided at its projecting extremity with a slot, the purpose of which will be presently shown.
40 A suitable projecting ear or lug, *a*, on the inner edge of the shoe is perforated, and in it is inserted one end of the rod F, which is provided with the nuts *f f*, which may be turned
45 up on either side of the ear *a*, thus firmly and rigidly securing the rod F therein. The other end of the rod is left free, and the rod extends from the ear *a* parallel with the line of reciprocation of the cutter-bar, and the bracket E and
50 the rod are so arranged that the rod projects through the slot in the bracket, and the bracket thus reciprocates upon the rod with the mo-

tion of the cutter-bar. Upon the rod are arranged the coiled springs *G g G g*, which bear against the bracket, and the nuts *f' f'*, thread-
55 ed upon the rod near its extremities, these coils forming the elastic cushions. The cushions may consist of a single coil upon each end of the rod and each side of the bracket; but, for reasons which will be explained, it is pre-
60 ferred to have a combination of two coils, *G* and *g*, upon each end of the rod, *G* being a strong and *g* a weaker spring. By turning the nuts *f'* the tension of the coils may be regulated. As the cutter-bar is reciprocated, each
65 motion of the bracket, as it moves with the bar, compresses the springs, thus neutralizing the concussion which would otherwise ensue upon the return-stroke. The object in using the combination of the strong and the weak
70 spring is to avoid the useless loss of power that would attend the compression of a strong spring at the beginning of the stroke, when the reactionary effect of the spring is not needed, being required only at the end of the stroke,
75 when the motion of the pitman is reversed. By the use of the strong and the weak spring at the beginning of the stroke, the weak spring is compressed without appreciable resistance, and when it has reached the limit of compres-
80 sion the stroke is nearly completed, and the compression of the strong spring then takes place at the instant when it is needed, producing the desired result. Washers are placed upon the rod between the springs of each pair,
85 for their proper bearing against each other. The purpose of leaving one end of the rod F free is merely to leave an unobstructed passage for the insertion and removal of the cut-
90 ter-bar, and to facilitate the placing of the elastic cushions upon and their removal from the rod, and the rod may be secured in any suitable manner.

I do not propose to confine myself to the particular means shown for attaching the
95 bracket or arm to the cutter-bar, the essential thing being to have a projecting arm or bracket, and this may be forged upon the bar, secured directly thereto, or provided for in any other suitable way.

This device can be applied to any other re-
100 ciprocating mechanism where it is desired to neutralize the concussion, and when applied to any such reciprocating mechanism of any

character would be a mechanical equivalent of the form of the invention herein specifically described.

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

1. The rod F, provided with elastic cushions, one end of the rod being secured in an ear or lug rigidly connected with the finger-bar, and
10 the other detached and free, in combination with the knife-bar provided with a projecting arm or bracket arranged to engage and compress the elastic cushions.

2. The knife-bar provided with the slotted arm E, in combination with a rod arranged 15 parallel to the line of reciprocation of the knife-bar, and projecting through the slotted arm, and provided with cushions which are engaged and compressed by the slotted arm at each stroke of the knife-bar.

EDWIN J. BLOOD.

Witnesses:

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