

No. 661,053.

Patented Nov. 6, 1900.

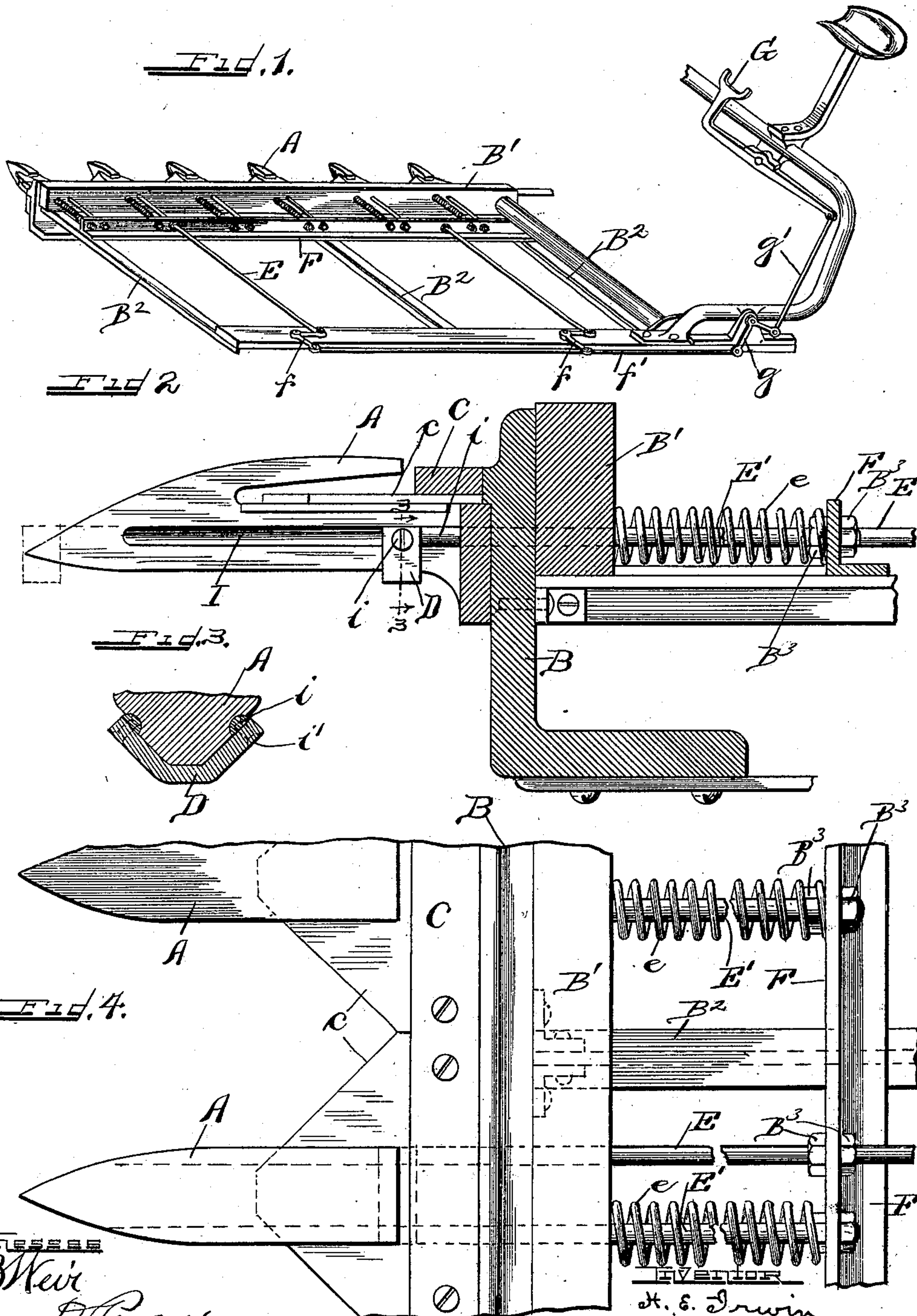
H. E. IRWIN.

DOFFER FOR CUTTER GUARDS.

(Application filed Nov. 18, 1899.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses

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Fig. 5.

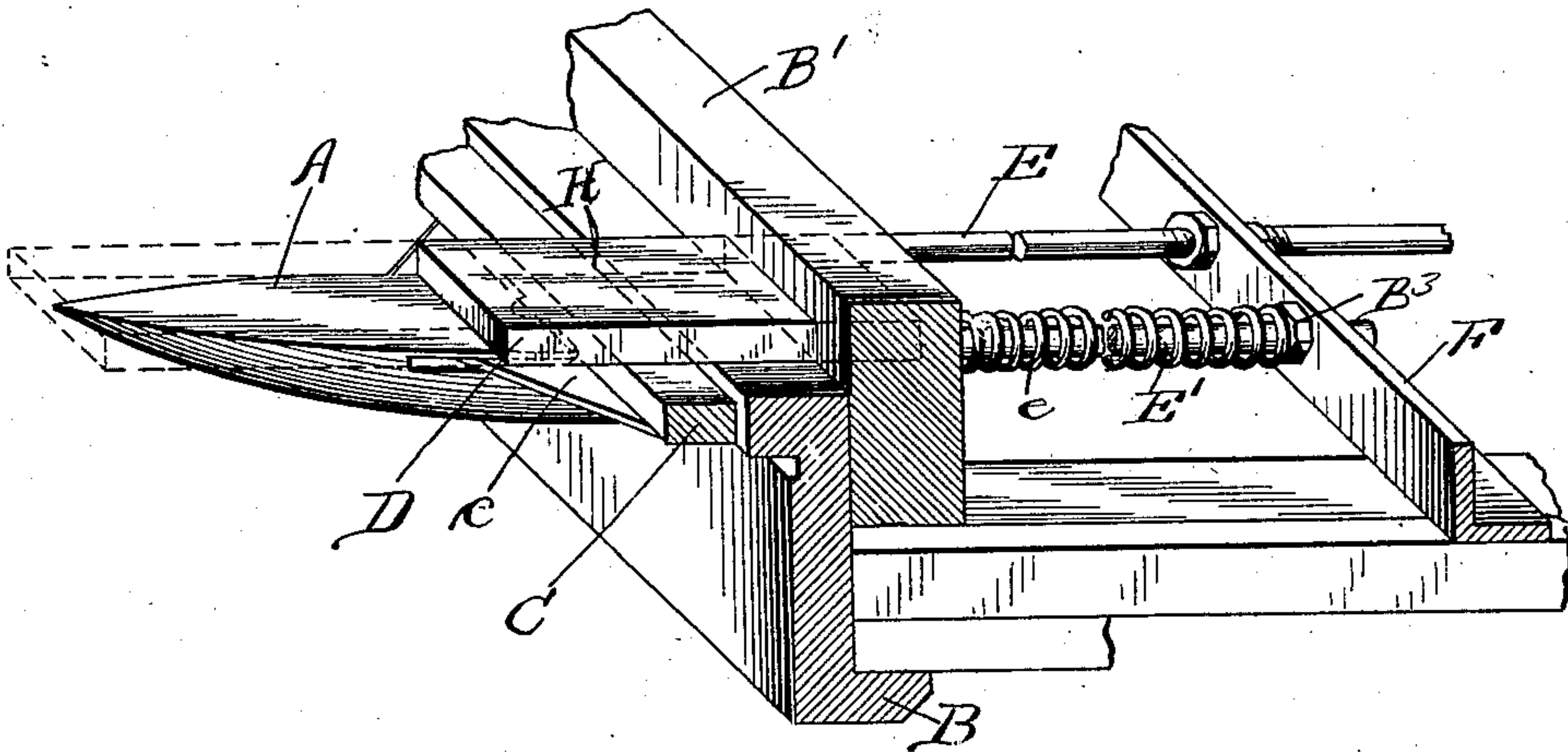


Fig. 6.

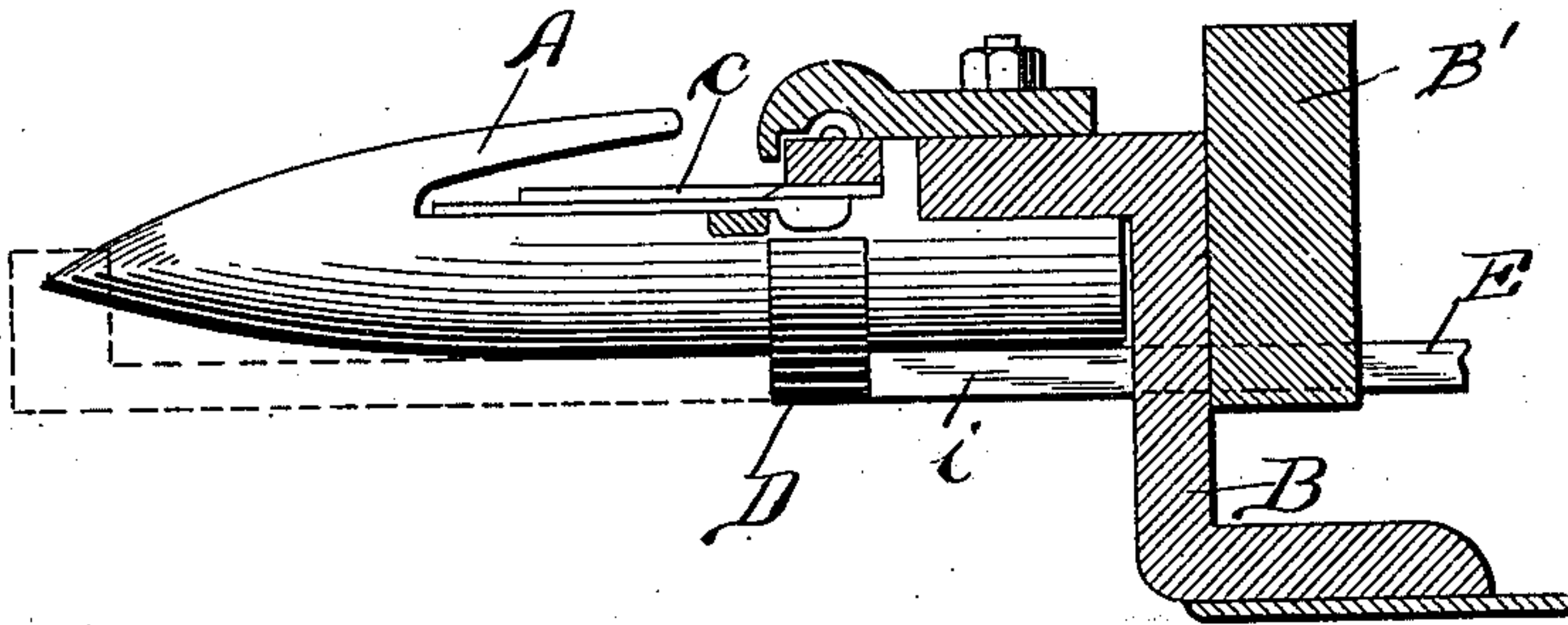
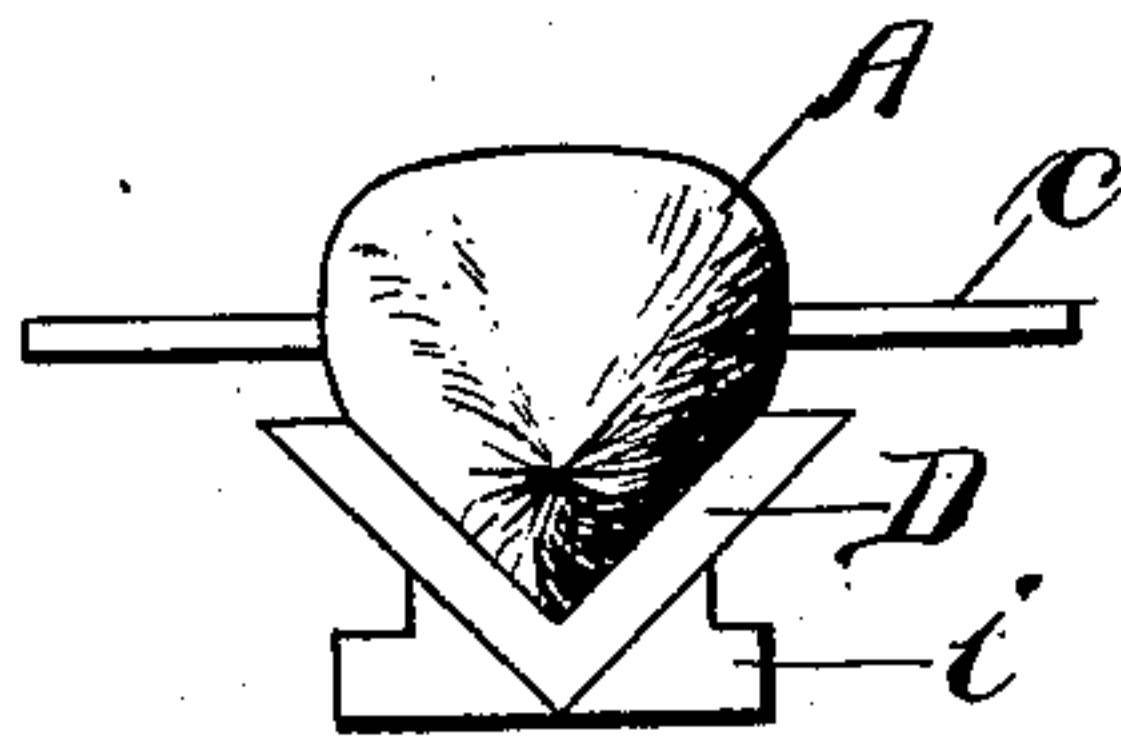


Fig. 7.



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UNITED STATES PATENT OFFICE.

HERBERT E. IRWIN, OF GALESBURG, ILLINOIS.

DOFFER FOR CUTTER-GUARDS.

SPECIFICATION forming part of Letters Patent No. 661,053, dated November 6, 1900.

Application filed November 18, 1899. Serial No. 737,535. (No model.)

To all whom it may concern:

Be it known that I, HERBERT E. IRWIN, a citizen of the United States, residing at Galesburg, in the county of Knox and State of Illinois, have invented certain new and useful Improvements in Doffers for Cutter-Guards, of which the following is a specification.

My invention relates to certain new and useful improvements in doffers for cutter-guards; and its primary object is to provide a simple and effective device for quickly cleaning the guards on the cutter-bar of harvesting, mowing, reaping, and similar machines.

Another object of this invention is to enable the driver of a harvesting, mowing, or reaping machine to clean the cutter-bar guards without leaving his seat upon the machine, thereby avoiding the danger of cutting his hands on the blades of the bar.

A further object of the invention is to provide means for cleaning the guards on a cutter-bar of a harvesting, mowing, or similar machine, disentangling and removing weeds, vines, cornstalks, and other obstructions therefrom, which means are so constructed and arranged that they will not interfere when in their normal position with the usual operation of the machine and when projected to perform their function will not knock down the grass or grain between the guards.

My invention has other objects in view, which will appear hereinafter in connection with the detailed description thereof.

In the accompanying drawings, Figure 1 illustrates so much of a machine as is necessary to illustrate the manner in which my invention is applied thereto. Fig. 2 is a sectional view showing a guard in side elevation. Fig. 3 is a sectional view on the line 3-3 of Fig. 2. Fig. 4 is an enlarged top plan view of a section of the cutter-bar. Fig. 5 is a perspective view showing my invention adapted to a guard having a flat upper face. Fig. 6 illustrates the invention applied to a guard having both its upper and lower faces curved or rounded off. Fig. 7 is a front view of the guard shown in Fig. 6.

Referring to the drawings, in which like letters of reference denote corresponding parts in all of the figures, A designates the guards, which are fastened to the frame B,

in which the cutter-bar C, carrying the knives c, operates, this cutter-bar and its frame, as well as the guards, being of any well-known variety, as, so far as I am aware, my invention is equally adaptable to all kinds, with such slight changes, additions, and alterations as the particular character of the parts demands. In the drawings I have shown my invention embodied with three different kinds of guards, and, referring particularly to Figs. 1 and 2, I will describe the invention in detail.

The doffer D consists of a plate bent to conform substantially to the lower portion of the guard, Fig. 3, and it extends up on either side of the guard to a point below the knives of the cutter-bar, so that it will not interfere with the operation of the latter. This doffer is carried on a support which comprises, in the embodiment now being described, two rods E E', which extend backward through the cutter-bar frame, and a guide-bar B', located behind the frame B, and a cross-bar F, suitably mounted to slide on parallel bars B² of the frame of the machine. One of these rods, E', is provided with a spring e, which normally holds the doffer in its required position, as shown in full lines in Fig. 2, while the other rod, E, extends backward and is suitably connected with a foot lever or treadle G, located adjacent to the seat, so that the doffer may be projected outwardly by simply pressing upon the treadle, and when this pressure is released the springs e will return the doffer and maintain it in its normal rearward position. Lock-nuts B³ B³ are arranged on the rods E and E' on opposite sides of the bar F.

In the preferred construction the doffers are all operated simultaneously, and this is accomplished by having the spring-rods all connected with the cross-bar F, while at least two of the other rods extend through and beyond said cross-bar and are connected by bell-cranks f with the rod f', one end of which is connected by a bell-crank g and a rod g' to the foot lever or treadle. It is not necessary that all the rods should be extended beyond the cross-bar and, as shown in Fig. 1, the desired operations can be effected if only two rods are so projected. In order to guide the doffer on a guard of substantially the character shown in Figs. 2 and 3, I provide grooves

I on each side thereof in which the knobs *i* on the end of the screws *i'* operate.

In the construction shown in Fig. 5 the guard has a flat upper face, and the doffer is made in the form of a flat plate carried by the supporting-rods.

In Fig. 6 I have shown a guard having a curved upper and lower face and with such a guard the doffer would be formed substantially as shown in Fig. 7.

This being the general construction of my improved attachment for machines of this character, the operation will be readily understood.

It frequently occurs that vines, weeds, wet grass, cornstalks, and other obstructions clog the knives of a cutter-bar to such an extent that their operation is imperfectly performed or wholly interrupted, and heretofore it has been necessary for the driver to remove this accumulation from around the guards to clear the knives; but it will be observed that when this condition occurs the driver instead of getting down from his seat on the machine, as heretofore, simply depresses the treadle *G*, which operates to throw the doffers *D* forward on each guard into the dotted position shown in Fig. 2, thereby cleaning the guard and removing all material which may cling thereto, without, however, knocking down the grass or grain between the guards. This operation can be accomplished quickly and the doffers operated in a thoroughly effective manner to clean the guards and loosen up the material clogged around the guards, so that the knives can operate properly. The doffers are returned to their normal position by means of the springs *e*, and when in this position they are out of the way and do not at all interfere with the desired operation of the machine.

It is obvious that changes in the form and proportion of parts and details of construction may be made in my invention to adapt it to machines of different characters and for other purposes, and I therefore would have it distinctly understood that I reserve the right to make all such changes as fairly fall within the scope of my invention. For example, I may use only one rod, as *E*, to constitute the support and place the spring *e* thereon.

Having thus fully described the invention,

what I claim, and desire to secure by Letters Patent, is—

1. In a machine of the character specified, the combination with a cutter-bar and its guard, of a doffer slidably connected to said guard, and means for operating said doffer.

2. In a machine of the character specified, the combination with a cutter-bar and its guards, of an independent slidable doffer for each of said guards, and means for operating said doffers.

3. In a machine of the character specified, the combination with a cutter-bar and its guards, of an independent slidable doffer for each of said guards, and means for moving said doffers simultaneously.

4. The combination with the guard of a cutter-bar, of a doffer slidably secured on one side thereof, means for moving the doffer lengthwise of the guard and devices for returning the doffer to its normal rearward position.

5. In machines of the character specified, the combination with a cutter-bar, a series of guards for said cutter-bar, and slidable doffers located adjacent to the guards of the cutter-bar, of foot-treadle connections intermediate of said doffers and treadle and retracting means for said doffers, substantially as and for the purpose described.

6. In machines of the character specified, the combination with a cutter-bar and a series of guards therefor, of doffers located adjacent to each guard, a foot-treadle and connections between the doffers and said treadle whereby the doffers may be projected forward on the guard and spring devices for returning the doffers to their normal position, substantially as described.

7. In machines of the character specified, the combination with a cutter-bar and a series of guards therefor, of doffers located adjacent to each guard, a cross-bar behind the cutter-bar, a support for each doffer comprising parallel rods connected to the doffer and extending back to the cross-bar and a spring on one of said rods, substantially as described.

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Witnesses:

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