(No Model.)

E. J. PULLEN.

CUTTING APPARATUS.

No. 441,698. Patented Dec. 2, 1890.

FIG. 1.

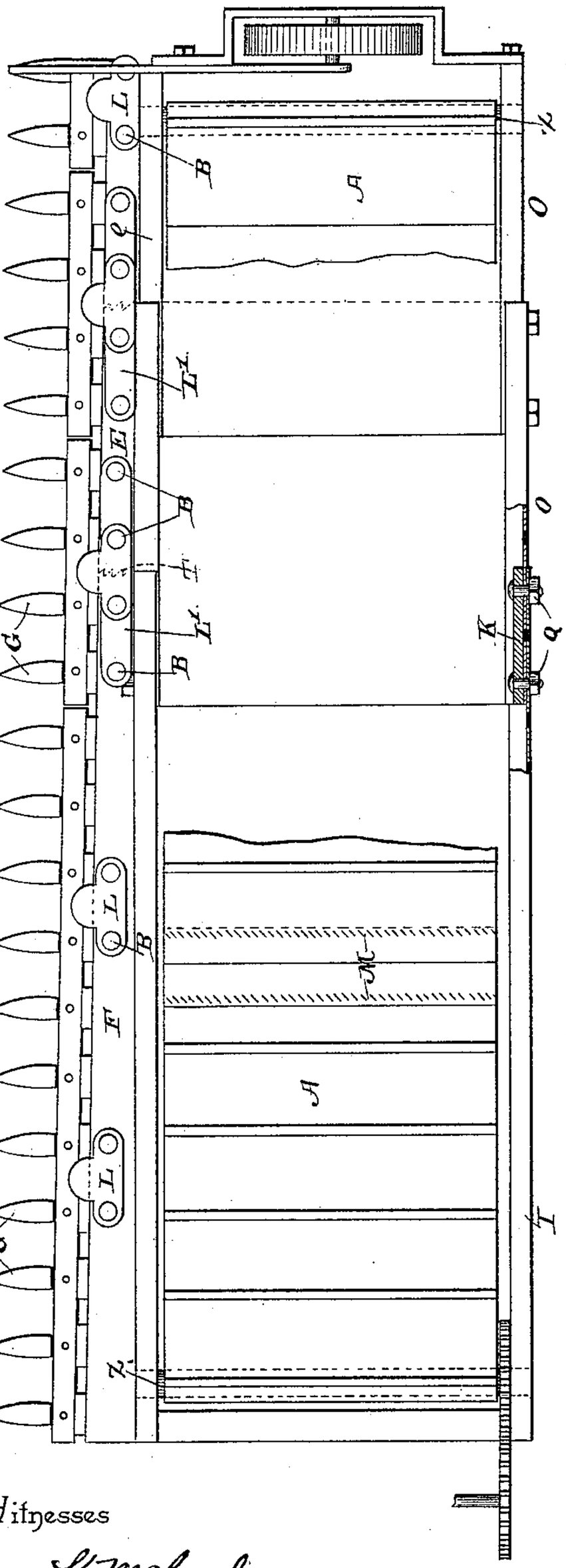


FIG. 3.

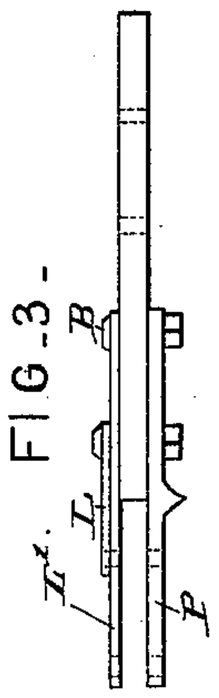


FIG. 4.

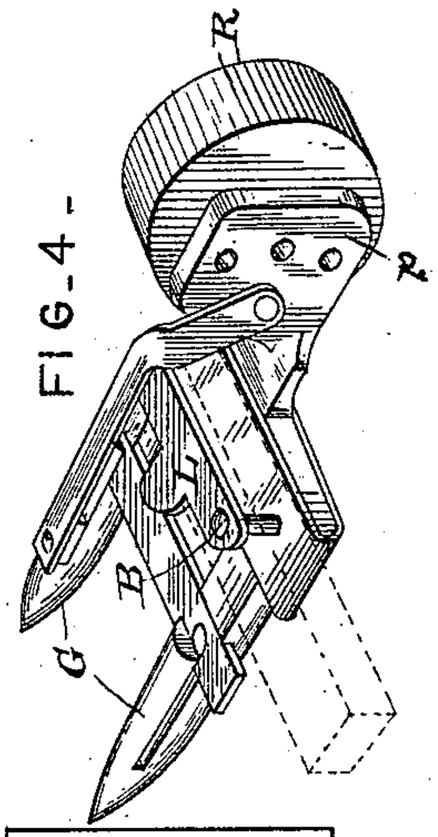
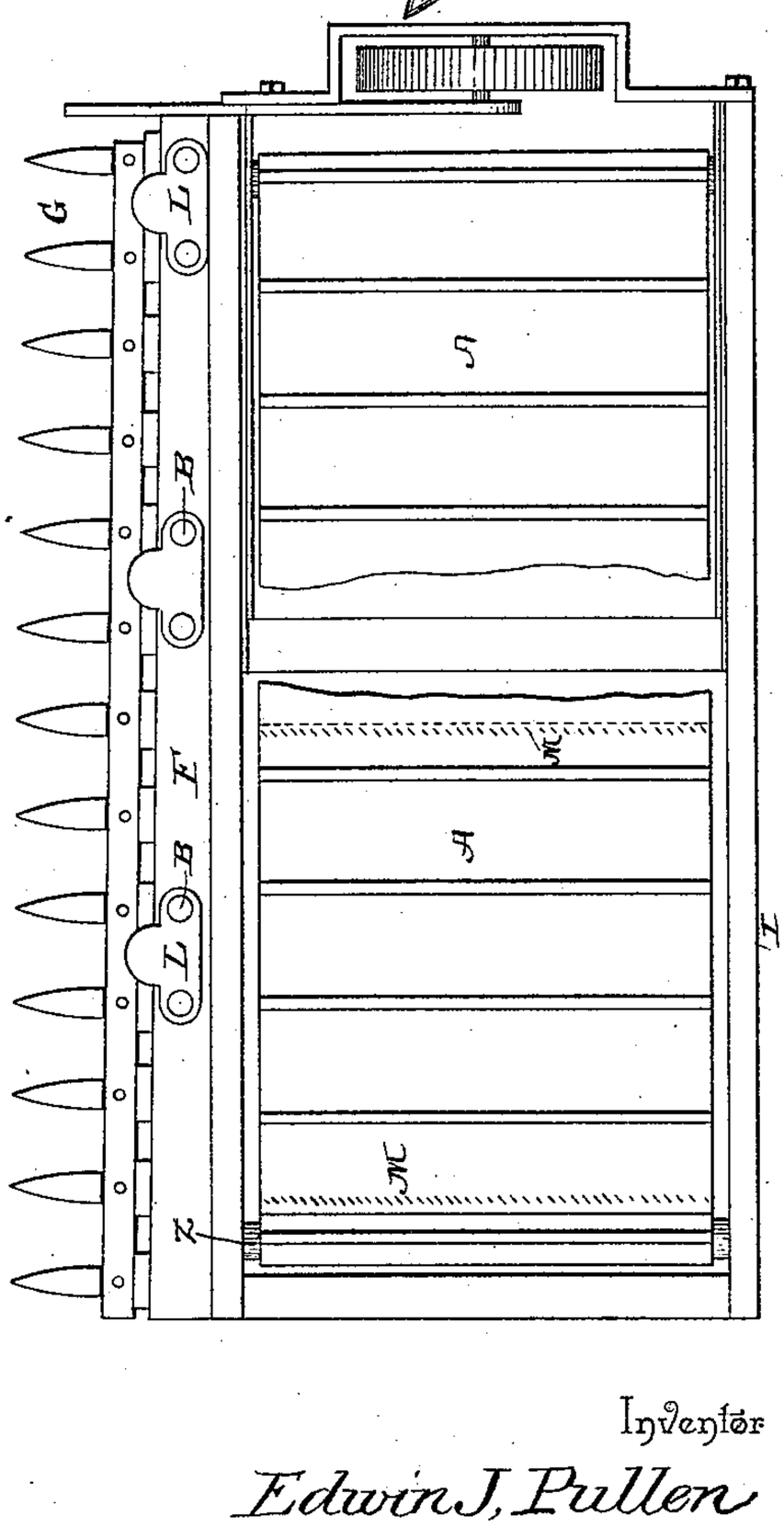


FIG. 2.



Witnesses

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CUTTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 441,698, dated December 2, 1890.

Application filed July 14, 1890. Serial No. 358,608. (No model.)

To all whom it may concern:

Be it known that I, EDWIN J. PULLEN, a citizen of the United States, residing at Holton, in the county of Jackson and State of Kansas, have invented a new and useful Cutting Apparatus, of which the following is a specification.

This invention relates to harvesters; and the object of the same is to provide a cutting apparatus and grain-platform capable of being reduced in length when the material being cut is very dense, heavy, or of large stalk, or capable of being extended when the material is extra light, or when it is desired to cut a wide swath.

To this end the invention consists of the details of construction, hereinafter more fully described, and illustrated in the drawings, in which—

Figure 1 is a plan view of my improved cutting apparatus and grain-platform in its longest form. Fig. 2 is a similar view in its shortest form. Fig. 3 is a rear elevation of one of the cutting-apparatus extensions. Fig. 4 is a perspective detail of the roller.

Referring to the said drawings, the letter F designates the finger-bar, having the guard-fingers G, and also provided with the lips L, between which and the guard-fingers the knife-bar reciprocates, as well understood.

E and *e* are extensions of the finger-bar, which are approximately the same, except that the inner extension E is slightly larger than the outer, so that the general taper of the finger-bar from one end to the other will be preserved even when the extensions are in place.

I have not illustrated the knife-bar and knives, but it will be understood that they may be of any ordinary construction, provided only that the knife-bar shall have extensions carrying additional knives, which extensions can be attached when the extensions of the finger-bar are used. The outer end of the finger-bar is provided with teeth T, and the inner end of the extension E is provided with similar teeth T, adapted to engage therewith. Below the joint between the bar and extension is a plate P, and between the lip L, above this joint and the bar is a plate L′ so that four of the bolts B, which secure the guard-fingers G in place, shall pass through the body of the plate L′ and two of them through the lip. These four bolts also pass through the plate P—two on each side of the intermeshing teeth T—as will be understood. By this means a very substantial connection is formed between the parts and their accidental displacement is avoided. The connection between the outer extension *e* and the inner extension E is the same, except that the parts are not so wide, as will be seen in the drawings.

In Fig. 4 is illustrated a perspective detail of the roller R, generally used at the outer end of cutter-bars for supporting the same. This roller is connected to the rear of a plate *p*, which carries the two outer guard-fingers G, and which is adapted to be passed beneath the outer end of the finger-bar or of the outer extension which is used. At the upper side of the same is a lip L, similar to those upon the body of the finger-bar—that is to say, spanning two bolt-holes—and bolts B are passed through this lip, through the holes at the outer end of the extension, or of the finger-bar itself, if no extension be used, and through the plate *p*, the nuts being applied to the bolts in the ordinary manner. Although I have shown the nuts as applied to the lower ends of the bolts, it will be understood that the heads of the bolts may be below and the nuts above the finger-bar.

With a cutting apparatus constructed as above described the finger-bar F, with the inner extension E, will be of about the same length as an ordinary cutter-bar. The inner extension may be removed by the operator when it is desired to cut a narrower swath, or the outer extension may be applied in addition to the inner when it is desired to cut a wider swath than usual. In any case the roller R will be applied to the outer end of the finger-bar or of the extension which is at the end of the cutter-bar. Considerable change can be made in the details of construction without departing from the spirit of my invention.

It will be understood that the above-described extensible cutting apparatus is applicable to mowing-machines now upon the market, or to harvesters or reapers, whether they have a binding attachment or not.

In the drawings I have illustrated the

grain-platform as made in two sections O and I, which telescope at their meeting ends. The sections have raised front and rear edges, making the platform in the shape of a trough, and inside this trough against each edge is located a block K. Bolts Q pass through the raised edges E, where they lap each other, and through the blocks, all these parts being provided with a number of holes, whereby the outer and inner sections O and I can be adjusted, so that the length of the trough can be regulated to agree with the length of the cutting apparatus. The ends of the inner and outer sections of the trough carry rollers Z, over which passes an endless apron A, driven by suitable mechanism, (not shown,) and the meeting ends of this apron lap by each other to a considerable extent in the shorter trough shown in Fig. 2, or to a less extent in the longer trough of Fig. 1, being connected by detachable devices of any suitable character, as the stitches M, here illustrated. This trough-shaped platform is preferably made with the same number of extension-pieces as the cutting apparatus, and the outer section O may or may not have a roller R′ for supporting the same, as shown.

It will be understood that when the extensible cutting apparatus is used in a reaper or mower having a segmental-shaped platform and employing a sweep-rake moving over the same (instead of the endless-apron carrier here shown and described) an arc-shaped extension is preferably employed, which is detachably connected to the outer edge of the platform when the extension of the cutter-bar is used, and an extension of the sweep-rakes must also be provided for in order to rake the grain from the arc-shaped extension, as well as from the main body of the platform.

What I claim is—

1. In a harvester cutting apparatus, the combination of the finger-bar F and the guard-fingers G, bolted thereto, except through the two outermost bolt-holes, with extension-bars E *e*, plate L′ on the upper side of said extensions, having four bolt-holes, lips L above said plates, having two bolt-holes, plates P on the lower side of said extensions, also having four bolt-holes, the centers of said lips and plates standing opposite the inner ends of said extensions, four guard-fingers G, carried by each extension-bar, and bolts B, passing, respectively, through the lip, the finger-bar, or the extension-bar, and the plates, and with the divider-plate *p*, carrying two guard-fingers G, the lip L thereon, and two bolts B, detachably engaging the two outer bolt-holes in the outer member of the finger-bar, substantially as described.

2. In a harvester, an extensible grain-platform, the same comprising an inner member I, an outer member O, raised telescoping edges E on said members provided with a number of holes, blocks K inside said edges, where they lap each other, and bolts Q, passing through said holes and blocks, as and for the purpose set forth.

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

EDWIN J. PULLEN.

Witnesses:

A. E. CRANE,

C. C. CRANE.