No. 654,232. Patented July 24, 1900.

S. K. DENNIS.

DECK FOR GRAIN BINDERS.

(Application filed May 26, 1898.)

(No Model.)

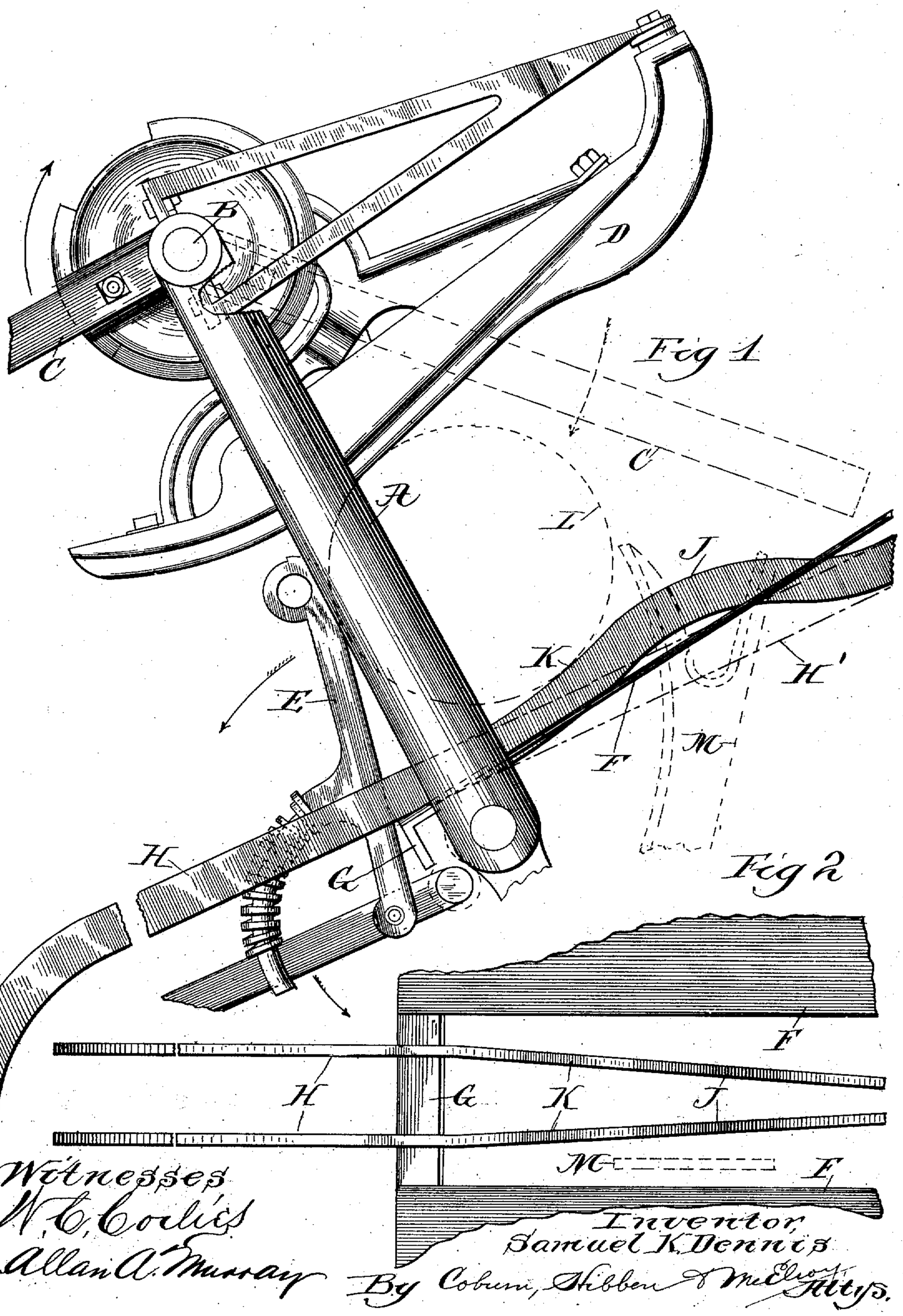

Fig 1

Fig 2

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UNITED STATES PATENT OFFICE.

SAMUEL K. DENNIS, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE PLANO MANUFACTURING COMPANY, OF SAME PLACE.

DECK FOR GRAIN-BINDERS.

SPECIFICATION forming part of Letters Patent No. 654,232, dated July 24, 1900.

Application filed May 26, 1898. Serial No. 681,784. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL K. DENNIS, a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Decks for Grain-Binders, of which the following is a specification.

My invention relates to an improved deck for grain-binders, and is concerned with the formation of the bundle-supporting arms, whereby the bundle being bound is prevented from springing backward under the pressure of the spring-pressed presser-arm when it is released from the needle-arm at the completion of the binding of a bundle and before it is discharged from the binder. My improved formation of these bundle-supporting arms also serves to insure a more certain and easy discharge of the bound bundle by the action of the discharge-arm.

Referring to the sheet of drawings herewith, in which the same letters of reference are used to designate identical parts in all the views, Figure 1 is an elevation of a portion of the deck and binding mechanism, showing the peculiar conformation of the bundle-supporting arms; and Fig. 2 is a plan view of the bundle-supporting arms with a portion of the deck.

A represents a standard forming a portion of the framework, in the upper portion of which is journaled the shaft B, which serves to operate the binding mechanism, and the bundle-discharge arm C, which is fastened to said shaft and rotates therewith.

D is the breastplate, and E the presser-arm.

The deck proper, so far as shown, consists of the two plates F, supported at their lower ends by the angle-iron G, forming a portion of the framework. Passing through the deck in the opening formed between the two parts of the deck are the bundle-supporting arms H. As constructed previously to my invention the portions of these bundle-carrying arms adjacent to the deck were straight, as indicated by the positions of the dotted lines H', (shown in Fig. 1,) and my improvement consists in forming these bundle-supporting arms with the raised portion J, which projects upward above the surface of the deck proper at a point just in the rear of where the gavel is held while it is being bound. In bringing this curved portion J down to the level of the bundle-supporting arms as ordinarily constructed I form this sloping portion K on the arc of a circle of which the journal of the discharge-arm C is the center.

The operation of my improved device is as follows: The bundle L, (represented by the circular dotted lines in Fig. 1,) is formed by the action of the packer-arms M forcing the grain against the spring-pressed presser-arm E until the pressure is sufficient to release the trip-stop and set the binding mechanism in motion, when the needle (not shown) is brought forward and squeezes the bundle against the presser-arm E in a position somewhat in advance of that shown in Fig. 1. With the former style of construction of these bundle-supporting arms, as shown in dotted lines, as soon as the needle-arm was retracted the bundle in its expansion, especially at its lower side, tended to force itself backward, and inasmuch as in the prior construction the farther back the bundle passed the greater was the distance between the lower surface of the breastplate and the upper surface of the bundle-supporting arms, this rearward expansion could take place very readily, and inasmuch as in its discharge the bundle was forced to pass through a narrower space than it occupied at the time of its being bound, there was the natural tendency to choke and prevent the proper discharge of the bundles. In my improved construction, however, the elevation J tends to prevent the rearward expansion of the bundle when it is released from the needle, inasmuch as it has no more room for rearward than forward expansion, and the construction of the portion K on the arc of the circle in which the discharge-arm moves, and the under surface of the breastplate being constructed substantially in the arc of a circle with the same center, the discharge of the bundle is facilitated, as it does not have to be additionally compressed at any point in its discharge.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a grain-harvesting machine, the combination with the breastplate, the presser-arm, and the discharge-arm, of a deck having

the bundle-supporting arms formed with a portion thereof projecting above the surface of the deck at a point just in rear of where the gavel is held while being bound, substantially as and for the purpose described.

2. In a grain-harvesting machine, the combination with the breastplate, the presser-arm, and the discharge-arm, of a deck having the bundle-supporting arms formed with a portion thereof projecting above the surface of the deck at a point just in rear of where the gavel is held while being bound, and sloping downward from said projecting portion on the arc of a circle of which the journal of the discharge-arm is the center, substantially as shown and described.

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