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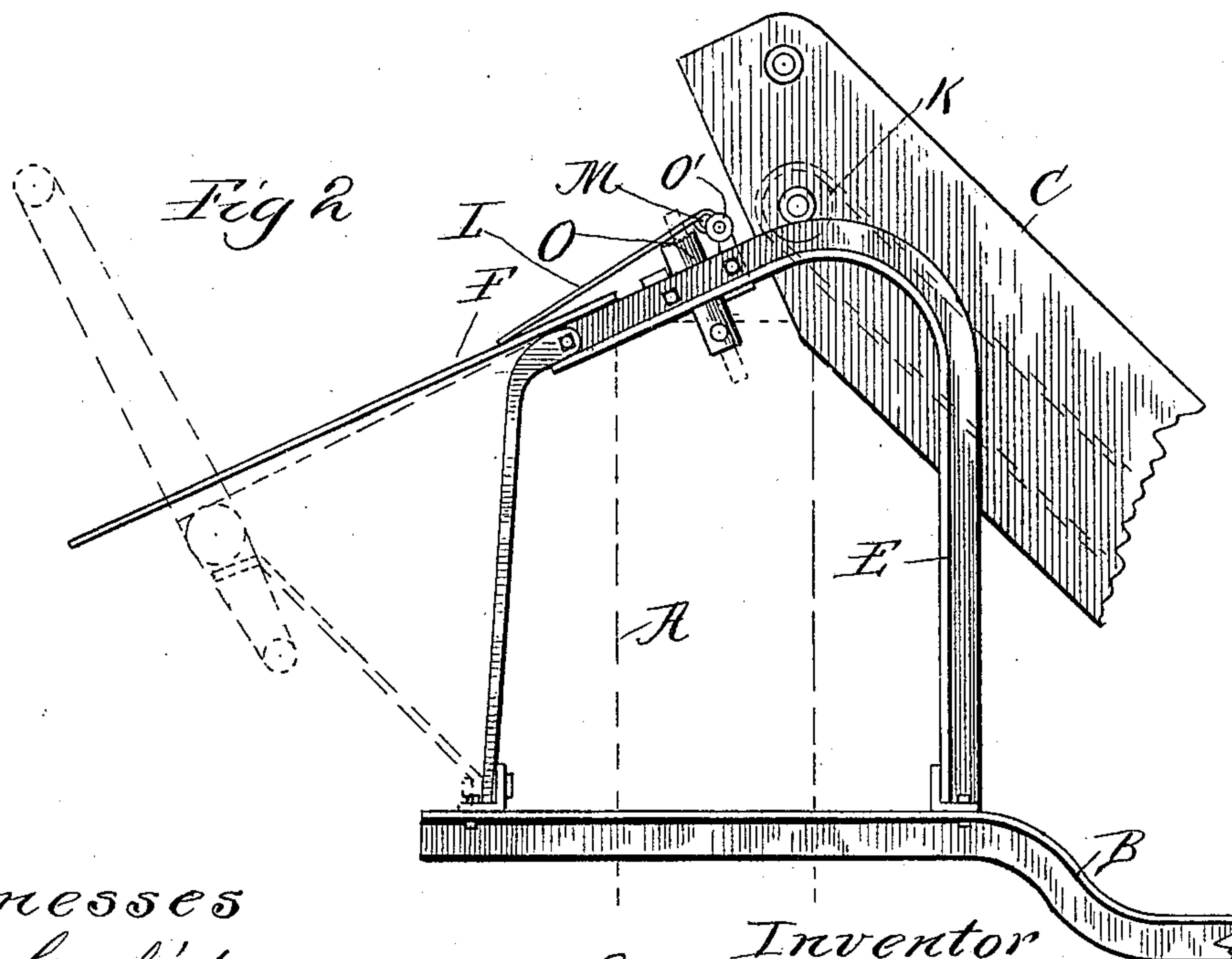
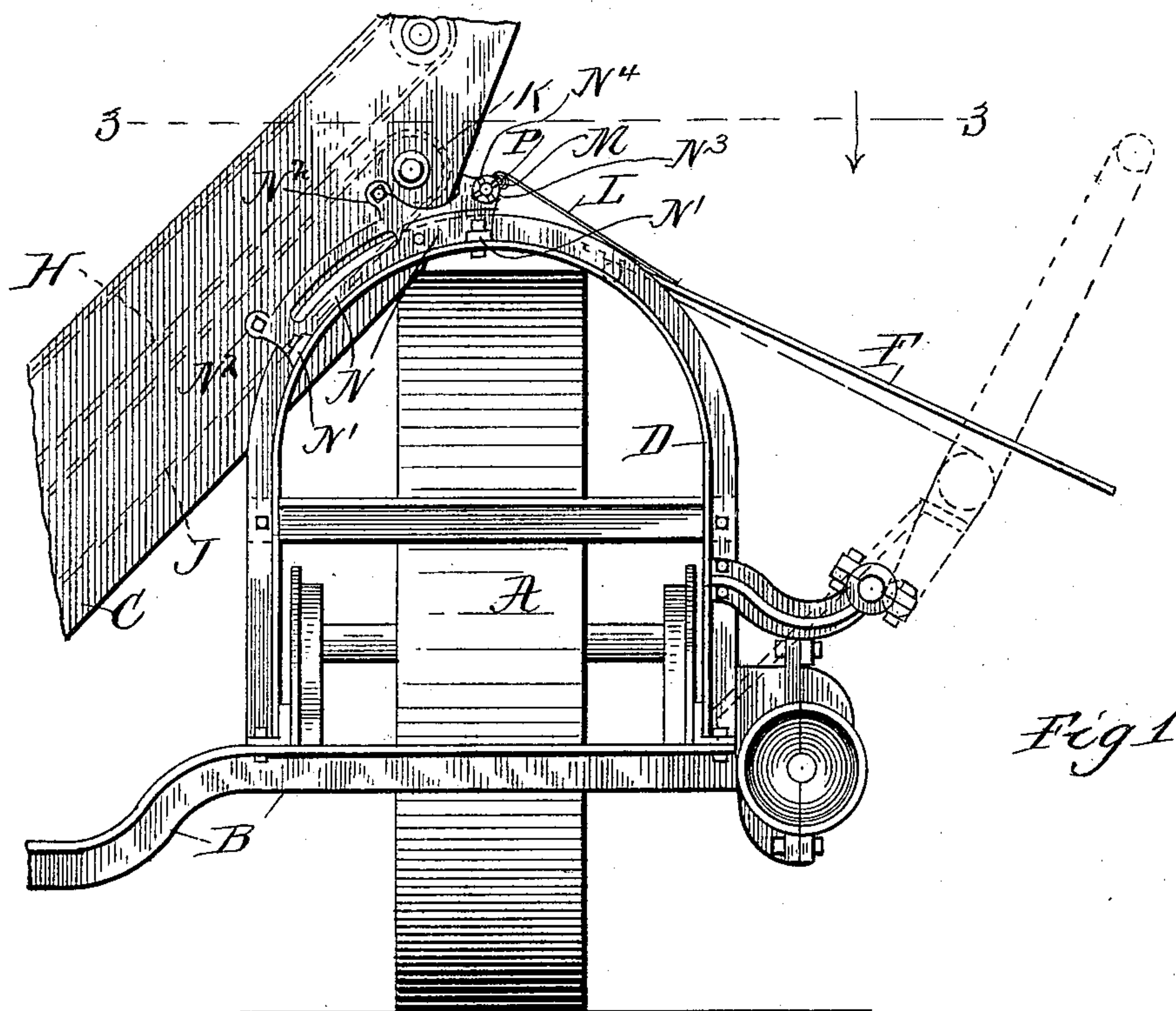
Patented Oct. 4, 1898.

S. K. DENNIS.
DECK FOR GRAIN BINDERS.

(Application filed Dec. 30, 1897.)

(No Model.)

3 Sheets—Sheet 1.



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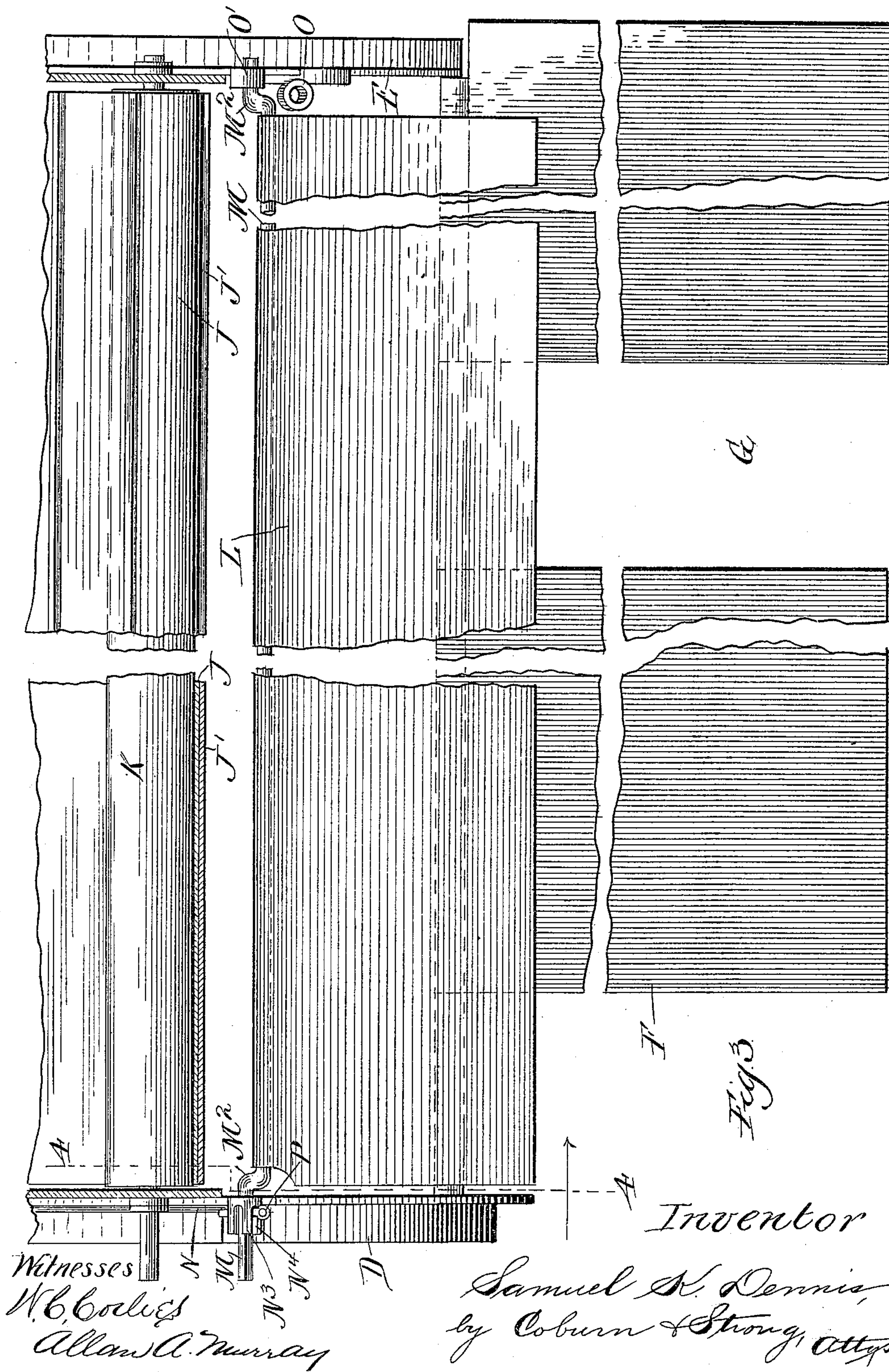
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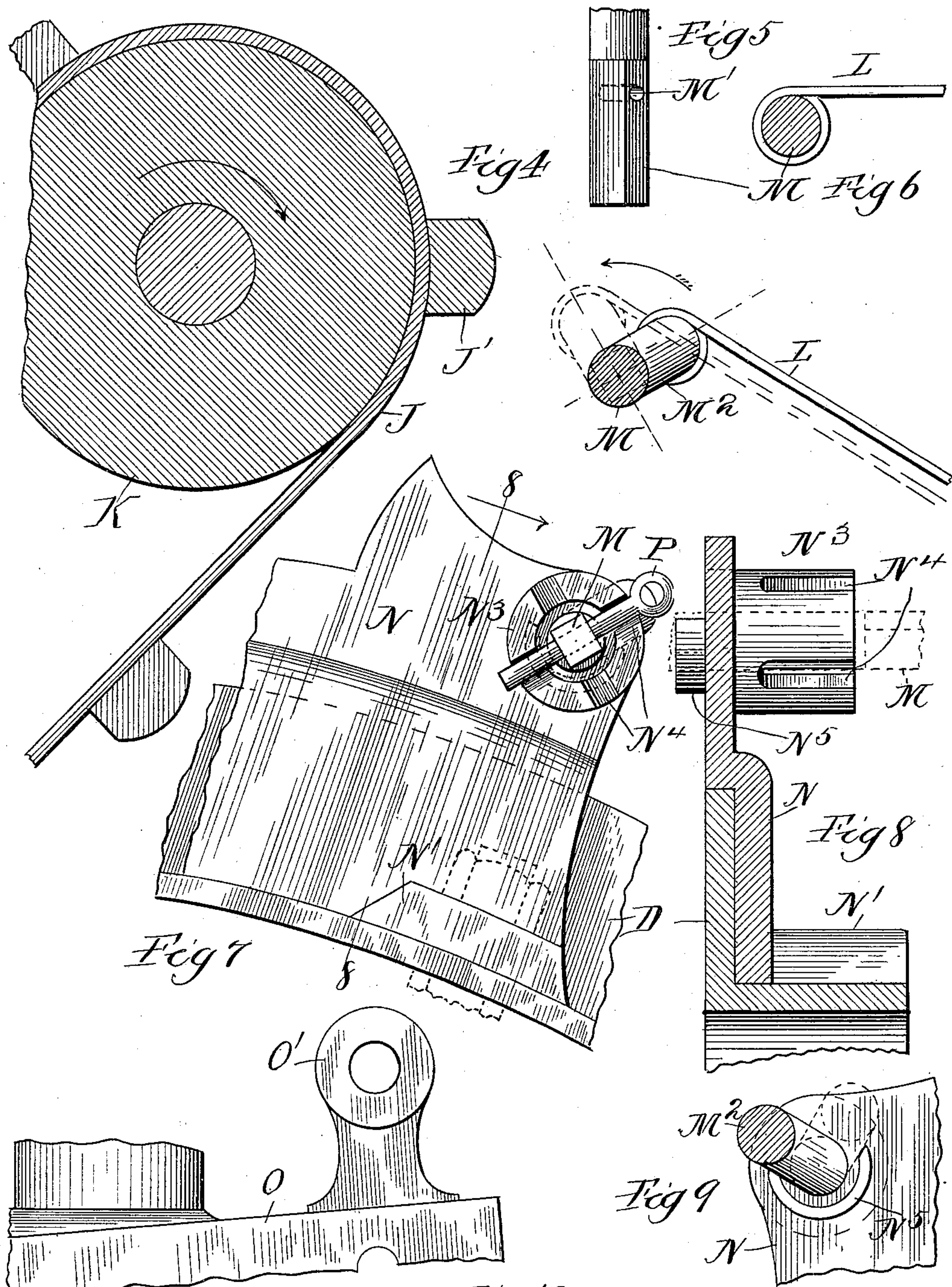
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Fig 10
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UNITED STATES PATENT OFFICE.

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. 611,776, dated October 4, 1898.

Application filed December 30, 1897. Serial No. 664,610. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL K. DENNIS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Decks for Grain-Binders, which is fully set forth in the following specification, reference being had to the accompanying drawings, in which—

10 Figure 1 is a rear elevation of a portion of a grain-harvester containing my improved deck. Fig. 2 is a similar front elevation. Fig. 3 is a plan view with portions broken away and in section on the line 3 3 of Fig. 1. Fig. 15 4 is a sectional view on the line 4 4 of Fig. 3, but on an enlarged scale. Fig. 5 is a detail view of the end of the rod upon which the adjustable bridge of my improved deck is mounted. Fig. 6 is a section showing how 20 the bridge is mounted upon the eccentric-rod. Fig. 7 is a detail view, on an enlarged scale, of the casting in which the end of the eccentric-rod is mounted. Fig. 8 is a sectional view of said casting on the line 8 8 of Fig. 7. Fig. 9 25 is a detail view of a portion of the casting shown in Fig. 7 seen from the opposite side. Fig. 10 is a detail view of a portion of the casting which carries the other end of the eccentric-rod.

30 My invention relates to a new and improved form of "deck" for grain-binders, that term being applied to the plate upon which the grain is collected in forming the gavel before it is bound.

35 My invention more especially relates to what I call the "bridge," which connects the lower canvas of the elevator-aprons and what may be called the "deck" proper.

40 Referring to the drawings, A is the customary main wheel carrying or supporting the framework of the machine, the lower portion of which consists of the horizontal sills B, which serve as the foundation for the grain-platform and also for the framework carry- 45 ing the elevator-frame and the binding mechanism.

50 C represents the sides of the elevator-frames, which are secured at their lower ends to the framework B by connections (not shown in the drawings,) and are supported at their upper ends by the frames D and E at the rear

and front of the machine, respectively. The deck proper, F, is a flat inclined plate, which is suitably supported from the framework in the customary manner and which is virtually 55 separated into two parts by a slot, as indicated at G in Fig. 3, through which the needle and compressor (not shown) pass or project. This deck is arranged to be adjustable lengthwise along the machine, so as to bind the grain at 60 different heights, as may be desired.

The grain when cut is delivered by the platform-apron to the elevator-aprons H and J, by which it is carried up over the main wheel in the customary manner and by which it is 65 delivered upon the deck F. Instead of having this deck F extend up close to the lower elevator-canvas J and its roller K, it has been customary to form a stationary bridge L, the upper end of which extends close to 70 the lower canvas J upon its feed-roll K and the other end of which laps over the deck proper, F. This bridge-piece L has customarily been constructed of a single piece, as the aperture G is not necessary at this point, and, 75 moreover, it has been stationary and not adjustable lengthwise, as the deck proper has been. The previous constructions of these parts hitherto described are clearly shown in the patent to Stewart, No. 571,807, patented 80 November 24, 1896, to which reference is had for a fuller description of the details.

In my improved construction instead of mounting the bridge-piece L rigidly I mount it adjustably by employing the mechanism to 85 be described. The bridge-piece L is constructed of a thin sheet of metal, which at its upper end is curved about the eccentric-rod M, which is mounted at the rear end of the machine in the casting N, which is of the 90 shape best shown in Fig. 1. The framework D, I preferably construct of a piece of angle-iron bent into an inverted-U shape, and the casting N has the general shape of a small arc of a circle and has the lugs N', by which 95 it is bolted to the framework D. The lower and central part of the casting has on its upper surface two lugs N², through which bolts pass to secure the upper end of the side piece C of the elevator-frame. The upper- 100 most end of this casting N carries the tubular lug N³, having four slots N⁴ therein. This

lug serves as a bearing for the rear end of the eccentric-rod M, while its front end is carried by a casting O, similarly located upon the front frame E. This casting O serves to support the butt-adjuster, (not shown,) and has among its other features the eyepiece or lug O', through which the front end of the eccentric-rod M passes. The rear end of the eccentric-rod M, as seen in Fig. 5, is squared to receive a wrench for turning it, and has passing therethrough an aperture M', which receives a cotter or other similar pin P, which, cooperating with the aperture M' and the slots N⁴, serves to hold the eccentric-rod in either of the two positions in which it may be adjusted. In order to facilitate the adjustment in either of the two desired positions, I form upon the interior of the casting N a semicircular lug N⁵, which, as seen in Fig. 9, serves as a stop for the eccentric-rod M, being so situated as to be contacted by the eccentric portion M² of the rod M in either position of its adjustment. Of course it will be understood that I might employ two lugs for this purpose instead of the semicircular one shown.

The relative position of the parts in the two adjustments and the object thereof will be best seen by reference to Fig. 4. Owing to the employment of the slats J' upon the canvas J it is impossible to bring the bridge portion L directly up against the canvas, so as to prevent the possible passage of any grain between the bridge and the canvas. When the grain being cut is heavy and straight and passes up the elevator with the stalks parallel to each other and to the slats J', the grain is delivered over the roller K with sufficient force to be completely and readily thrown upon the bridge-piece L in its nearest adjustment—the one shown in dotted lines in Fig. 4. When, however, the grain is light and bent and otherwise not even, so that its stalks do not lie parallel to the slats when it is delivered over the roller K, there is a tendency for one of the ends of each stalk to get between the slats J' and the end of the bridge-piece. When the bridge-piece is in its nearest position, it is close enough to the slats so that the slats and the end of the bridge-piece act as a pair of rollers or jaws, as it were, to grip hold of that portion

of the stalk and tends to carry the stalks between the bridge and the roller instead of upon the bridge, as desired. When this occurs, some of the stalks will be carried through, and those which are only partly carried through will tend to choke up and stop the feed of the machine. To overcome this difficulty in light and tangled grain, the adjustment shown in full lines in Fig. 4 is preferred, as in this case, with the end of the bridge so far from the slats J', there is very little tendency for these parts to act as rollers to carry the grain between them, and any slight tendency that they may have to act in this way is overcome by the volume of grain being delivered, and it is all carried forward over the bridge and down upon the deck proper.

While I have shown the bridge-piece alone as being adjustable to and from the canvas, it is to be understood that I do not limit myself to such a construction, as I might arrange it so that the entire deck is so adjusted.

I claim—

1. In a grain-binder, the elevator-apron, a relatively-fixed portion of the deck, a bridge-piece between said apron-roller and deck, an eccentric shaft upon which said bridge-piece is mounted, and means for adjusting said eccentric shaft at different positions, substantially as and for the purpose described.

2. In a grain-binder, the elevator-apron, an eccentric-rod pivotally mounted in proximity to the apron-roller, means for adjusting said rod in different positions, and a portion of the deck mounted upon said rod, substantially as and for the purposes described.

3. In a grain-binder, the combination of the apron-roller K, the eccentric-rod M mounted in proximity thereto, the portion L of the deck mounted upon the eccentric portion of said rod M, the slotted tubular lug N³ in which one end of said eccentric-rod is mounted, and the pin cooperating with the slots of the tubular bearing-lug and an aperture in the end of the rod M, substantially as and for the purpose described.

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Witnesses:

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