

(No Model.)

2 Sheets—Sheet 1.

G. S. BINGHAM.  
GRAIN SHOCKING MACHINE.

No. 597,703.

Patented Jan. 25, 1898.

Fig. I.

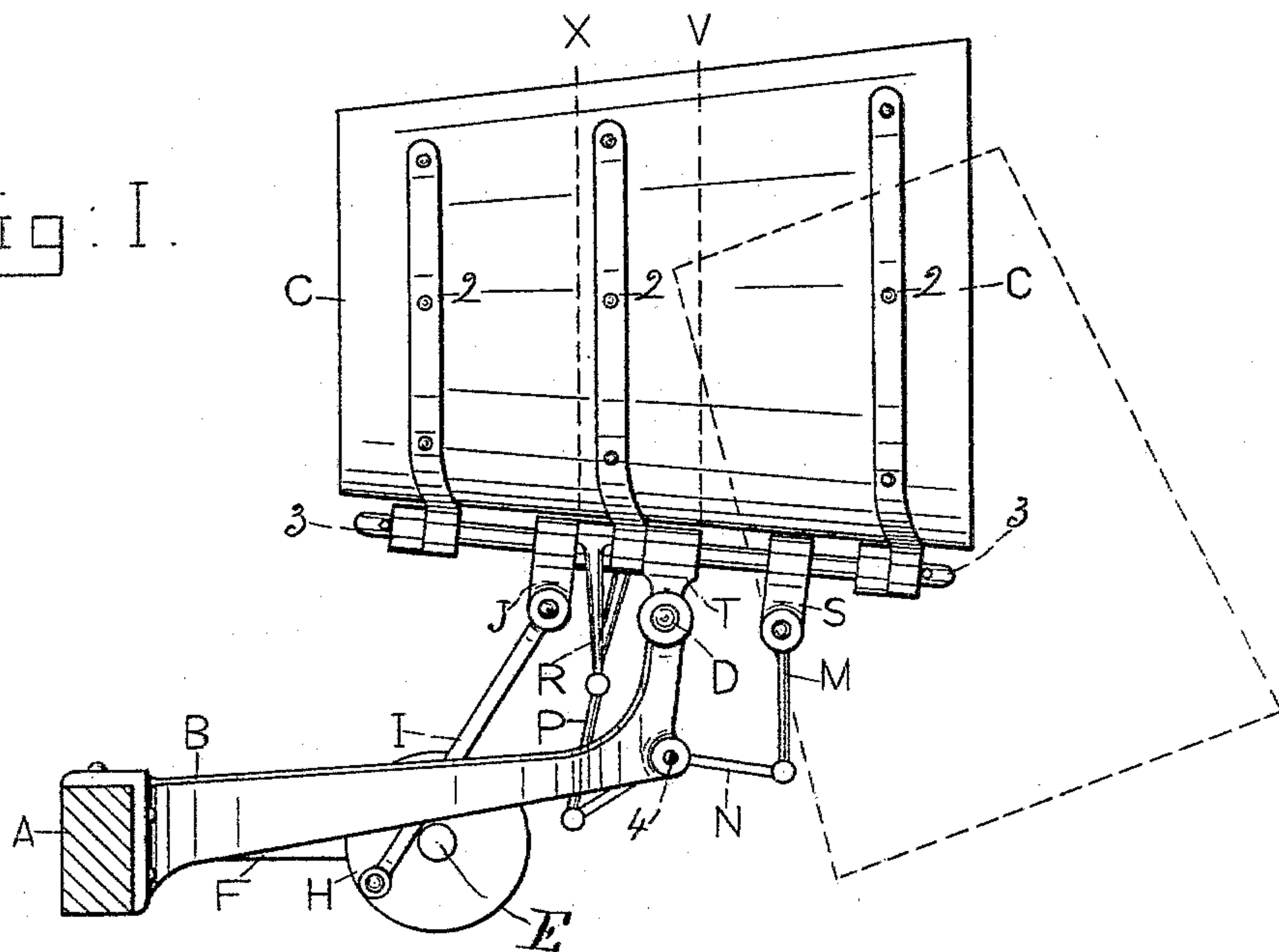
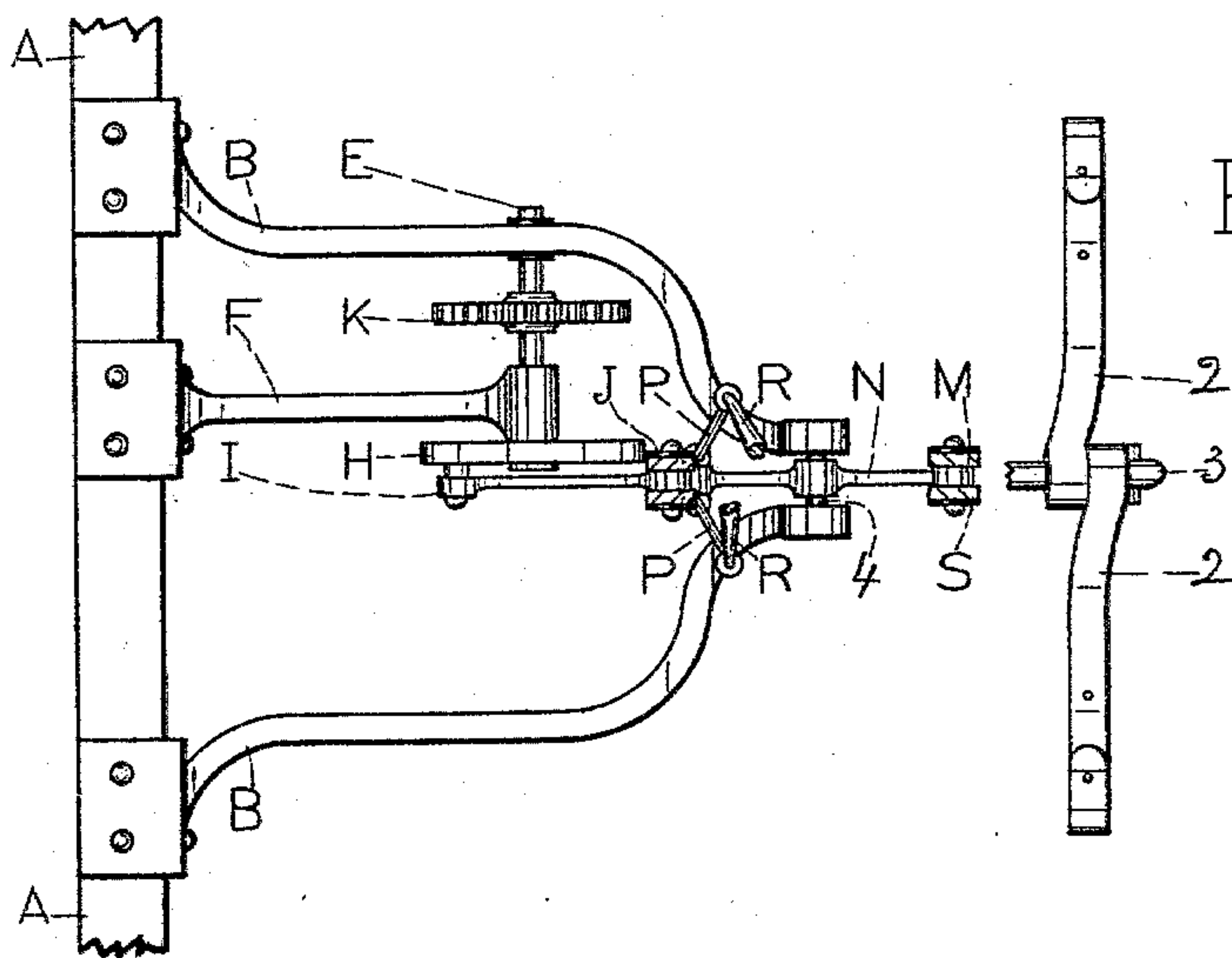


Fig. II.



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George Sheldon Bingham.  
By his Attorney,  
John H. Hendry

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Fig. III.

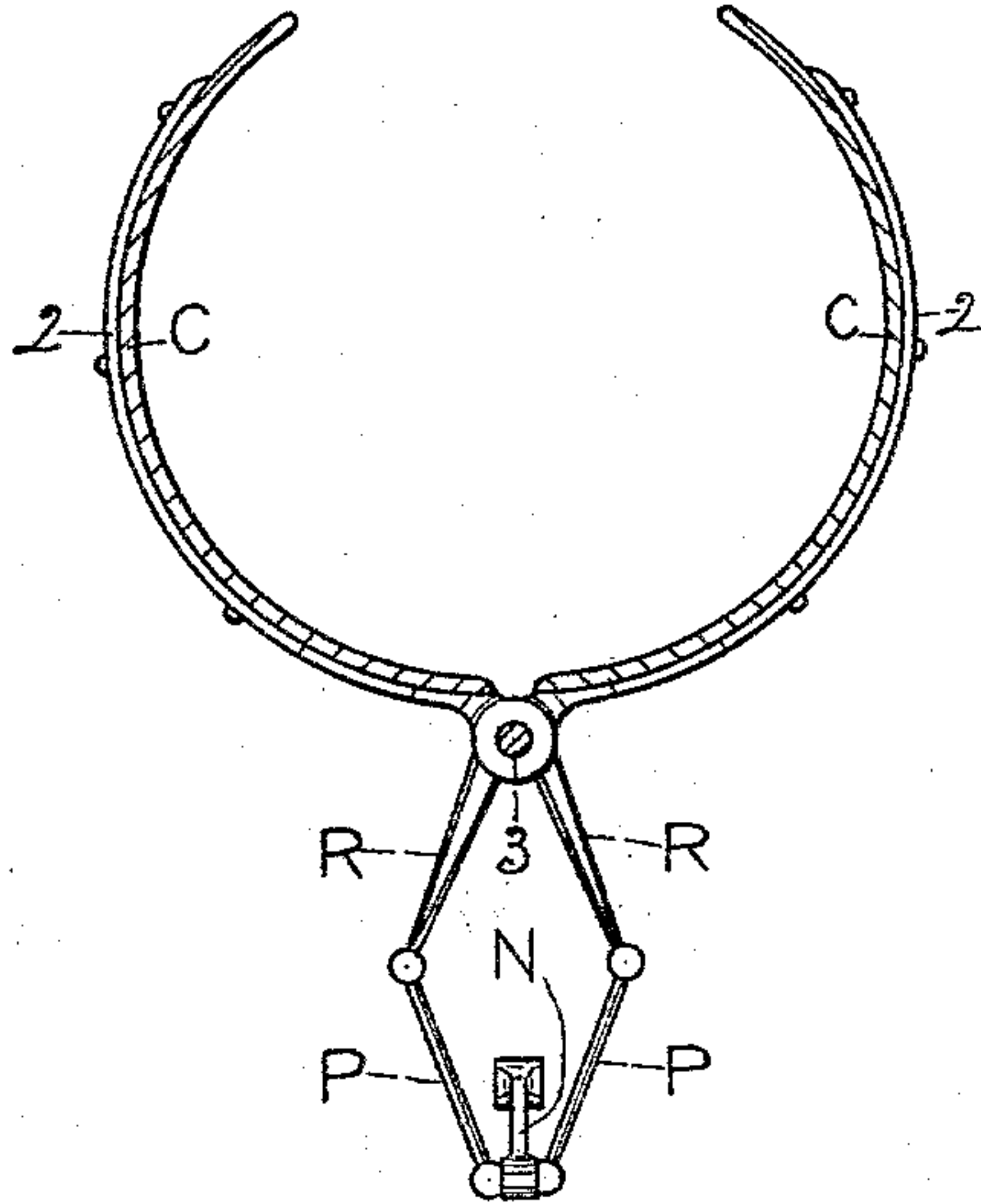
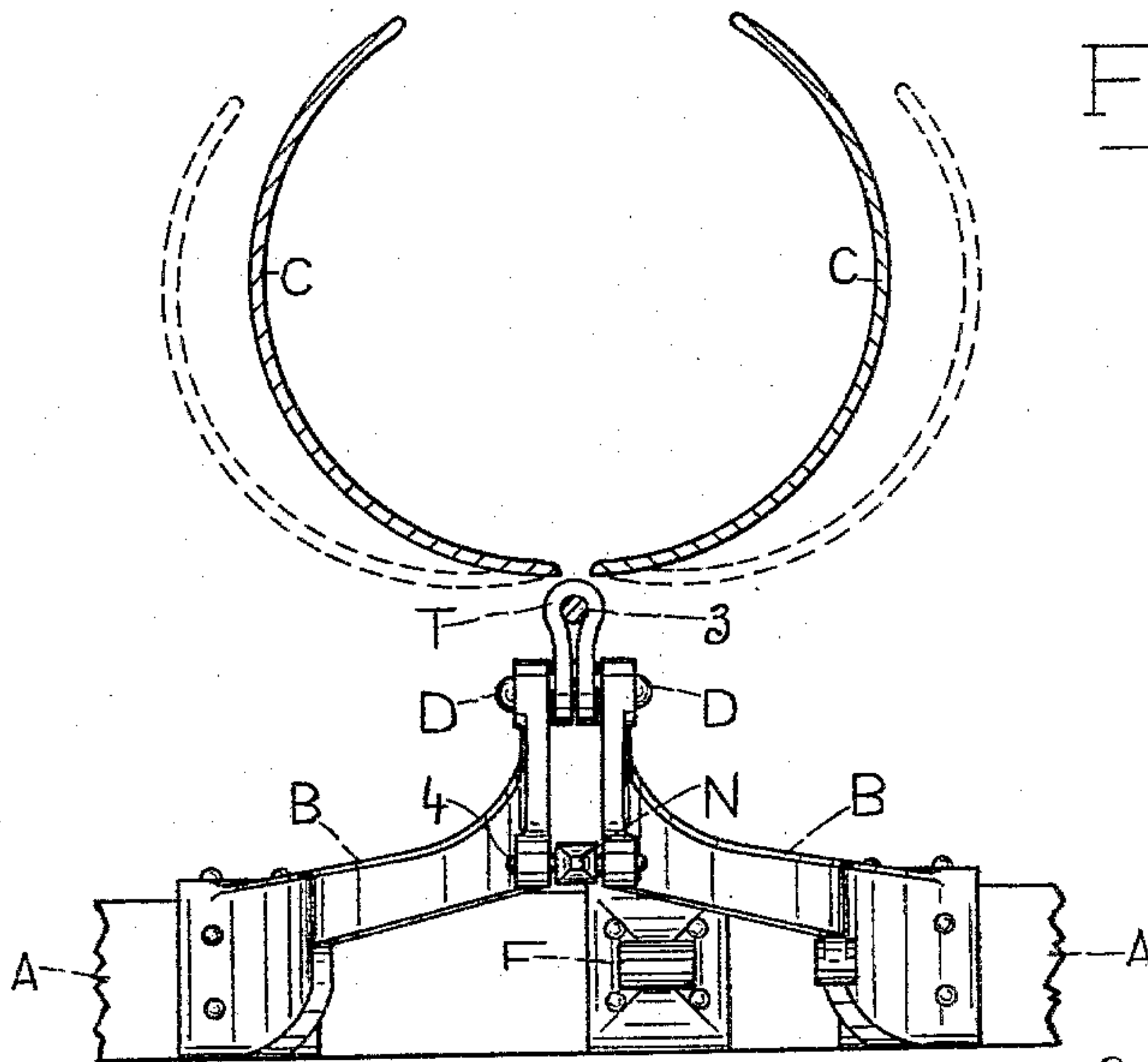


Fig. IV.



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# UNITED STATES PATENT OFFICE.

GEORGE SHELDON BINGHAM, OF HAMILTON, CANADA.

## GRAIN-SHOCKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 597,703, dated January 25, 1898.

Application filed October 28, 1896. Serial No. 610,258. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE SHELDON BINGHAM, a citizen of Canada, residing at Hamilton, in the county of Wentworth, in the Province of Ontario, Dominion of Canada, have  
5 invented certain new and useful Improvements in Grain-Shocking Machines, of which the following is a specification.

The invention consists of a sheaf-receptacle  
10 having pivoted sides, its upper part and ends being open and pivoted on a frame at the rear end or side of a reaping and binding machine and movable to compress slightly and release the bundles when tilted and be reinstated to  
15 receiving position by means of applied mechanism, the objects of my invention being, first, the construction of a machine that shall be capable of receiving a number of sheaves of grain into its open receptacle, one at a time,  
20 consecutively, from a reaping and binding machine and to carry the said sheaves until a sufficient number is received to form a shock; second, to exert a slight circular compression on the sheaves previous to placing the shock  
25 in an erect position on the ground, and, third, to construct the sheaf-receiver in such a form that the rearward butt of the shock shall be larger in diameter than the head for the express purpose of standing the same erect when  
30 freed from the receptacle. This is a very important element in the formation and tapered construction of the receptacle.

In the drawings, Figure 1 is a side elevation of the machine with its sheaf-receptacle in  
35 position and connected to the rear end of a reaping and binding machine, the broken lines showing the relative position of the sheaf-receptacle when tilted or delivering. Fig. 2 is a plan especially showing the under  
40 mechanism which tilts and partially closes and opens the sheaf-receptacle on its pivotal rod, the said receptacle and rod being taken away in order to fully show said mechanism. Fig. 3 is a front sectional elevation of the machine  
45 through the broken vertical line X, that part of the receptacle alone being shown and in section. Fig. 4 is a rear sectional elevation of the machine through the broken vertical line V, that part of the receptacle alone  
50 being shown and in section, the broken lines of the receptacle showing position of the same when opened out.

Similar letters and numerals refer to similar parts throughout the several views.

A represents the end of the framework of  
55 a reaping and binding machine, and B is the frame bolted thereto and which supports the entire shocking-machine. The sheaf carrier or receptacle C is connected to the rear and upper parts of the frame B by means of a  
60 center pin D, which allows the receptacle to perform the function of tilting by means of its applied mechanism. This receptacle enlarges in diameter toward its rear end and is constructed on semicircular metallic side ribs  
65 2 at each end of the receptacle, which is formed of a light lining of suitable material to form a smooth interior. This lining of the receptacle may be in lengthwise sections, to which the outer metallic ribs 2 are secured. The  
70 lower parts of these ribs are formed with an eye, through which passes the pivotal rod 3, on which the two sides of the receptacle pivot or hinge in order to open and close.

It will be noticeable that the sides of the  
75 receptacle are sufficiently wide apart at the top to allow a sheaf to enter when thrown from the binding-machine, the butt of the sheaf coming to the rear end of the receptacle, and when a sufficient number of sheaves  
80 has been received to form a shock the receptacle is then tilted on its pivotal pin D. T is the central strap which connects the rod 3 to the arms B by means of pin D. To accomplish this tilting, a transverse shaft E, which  
85 is journaled in the frame B and bracket F, is provided with a crank-wheel H, to which is connected the lower end of connecting-rod I, the upper end of which is connected to the pivotal rod 3 of the receptacle by means of a  
90 strap connection J, this being rigid to the said pivotal rod. This shaft E receives its power and certain revolution from the reaping and binding machine by means of a chain-wheel K, crank-motion, or other approved  
95 method when the receptacle has its quota of sheaves sufficient to form a shock. At the same time as this tilting of the receptacle is being performed the shock is slightly compressed by means of the crank-wheel H  
100 bringing down the small and inner end of the receptacle by means of the connecting-rod I. Thence the larger and outer end of the receiver or receptacle is slightly raised, bringing with



it the rod M, the lower end of which is connected to the outer end of bent lever N, the inner end of this bent lever being connected to the lower ends of the rods P, therefore  
 5 bringing the upper ends these rods P, the lower ends of the arms R, and the sides of the receptacle closer together. The bent lever referred to is pivoted to the short transverse bar 4 in the lower and outer ends of the  
 10 frame B, and is connected at its rear end to the pivotal rod 3 by means of the connecting-rod M and strap S. At the same time as the momentary compressing of the shock is taking place by the movement of the crank-  
 15 wheel H the lower end of its connecting-rod passes the vertical radial line of the crank-wheel, the reverse tilting movement of the receptacle takes place, and its two sides gradually commence to open. This gradual open-  
 20 ing of the two sides of the receptacle is accomplished by the reverse movement of the under mechanism, which closes slightly the said sides, as described. This reverse move-  
 25 ment of mechanism to open the pivoted sides of the receptacle is performed by means of the crank-wheel H and its connecting-rod I, which raises the inner and small end of the receptacle on its pivotal central pin D, there-  
 30 fore lowering the large and outer end of the receptacle. Consequently the lower ends of the arms R are extended, opening the recep-  
 35 tacle, and together with the almost vertical position of the same leaves the shock standing. At this time as the whole of the machine is drawn along the shock remains stand-  
 ing and the reverse tilting of the receptacle is performed to position as delineated.

The upper ends of the receptacle-arms R form a part of the lower ends of the central  
 40 semicircular receptacle-ribs 2, which pivot on the rod 3, as do the outer and smaller ribs 2 of the receptacle.

Ample facilities are afforded for the shock to leave the receptacle, though greater may  
 45 be the case, providing more taper is allowed in the construction of the receptacle than is herein set forth. The operating mechanism would be substantially the same in either case, the extent of the tilting of the receptacle be-  
 50 ing principally governed by the throw of the crank-wheel I and also by the position of the connecting-strap J in its relative position to the pivot D. This special and particular con-  
 55 struction of the sides of the receptacle, as defined, with its special number and pattern of ribs, may be to some extent modified, more ribs may be added, perhaps of lighter con-

struction, according to strength required, and interior lining of suitable material will be adopted in order to give proper lightness in  
 60 respect to durability and proper strength and also smoothness of the interior, this latter being important, so as not to impede the shock when leaving. On account of this slight com-  
 65 pression of the shock previous to leaving the receptacle binding of said shock with twine will not be essentially necessary; but if deemed expedient to introduce an automatic  
 70 binding device in connection therewith the same can be accomplished, and if so the existing mechanism will in no manner be inter-  
 fered with.

Having now particularly described and as-  
 75 certained the nature and object of my invention and in what manner the same is to be performed, what I claim as my invention, and desire to secure by Letters Patent, is—

1. In a sheaf-carrier, a supporting-frame, a rod pivoted on the frame on a transverse axis, two sides pivoted on the rod, arms R, secured  
 80 rigidly to the sides, a lever pivoted between its ends on the supporting-frame, and a link connection from one end of the lever to the pivoted rod and from each of the arms R to  
 85 the other end of the lever, and means for tilting the rod and thereby the carrier, substantially as described.

2. In a machine of the character described, a carrier having pivoted sides with open ends capable of opening out on a through pivotal  
 90 rod, said rod pivoted on a supporting-frame, arms extending downward from the sides of the carrier, a lever pivoted between the ends of arms on the supporting-frame, a link con-  
 95 nection from one end of the lever to the pivoted rod, and from each of the arms to the other end of the lever, and means for tilting the rod and thereby the carrier.

3. In a machine of the character described, a supporting-frame, a rod pivoted on the  
 100 frame on a transverse axis, two sides pivoted on the rod, arms R, secured rigidly to the sides, a lever pivoted between its ends on a supporting-frame, and a link connection from  
 105 one end of the lever to the pivoted rod and from each of the arms R to the other end of the rod, and the crank-disk and its connecting-rod as means for tilting the rod and there-  
 by the carrier.

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