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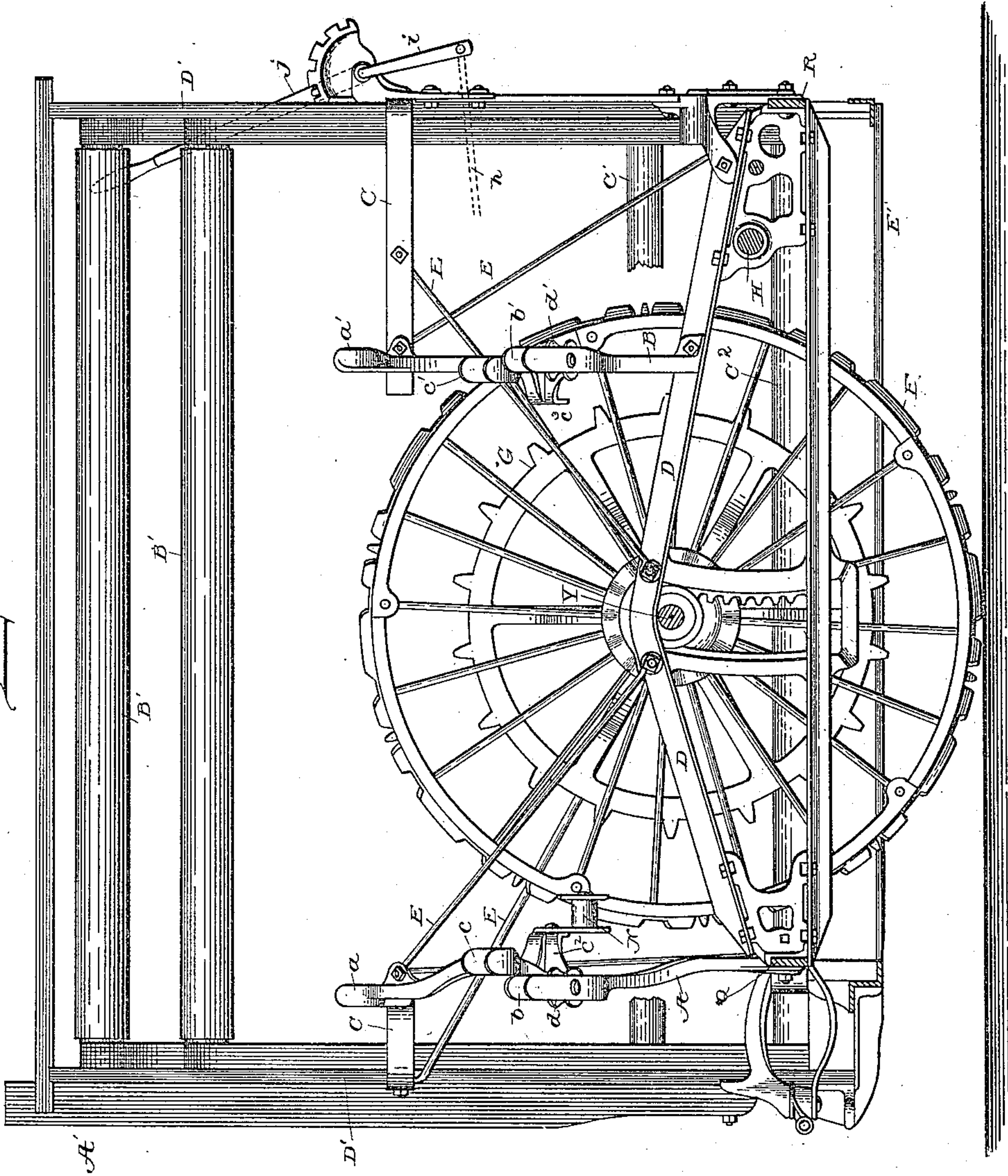
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C. H. SALZMAN.
SELF BINDING HARVESTER.

No. 441,110.

Patented Nov. 18, 1890.

Fig. 1.



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(No Model.)

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Fig-3-

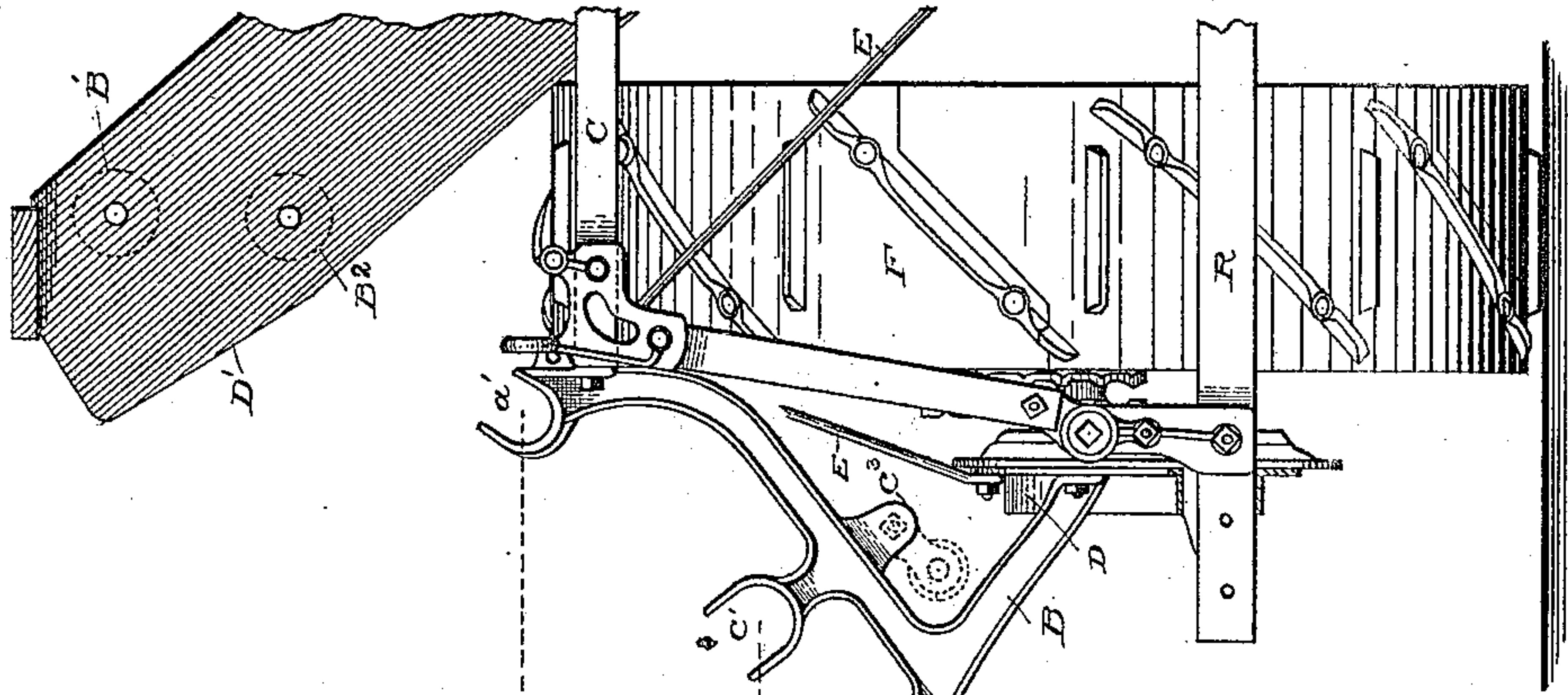
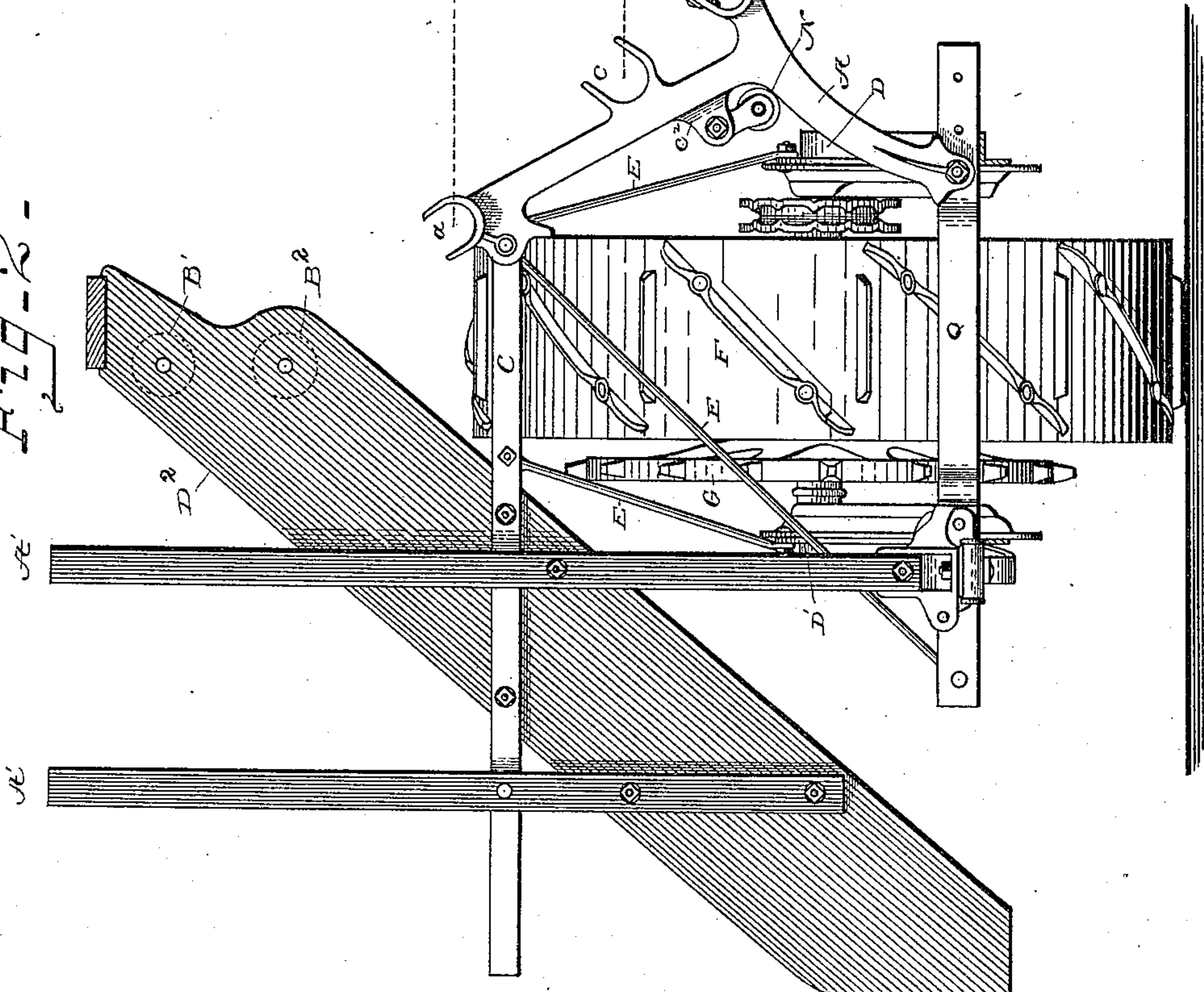


Fig-2-



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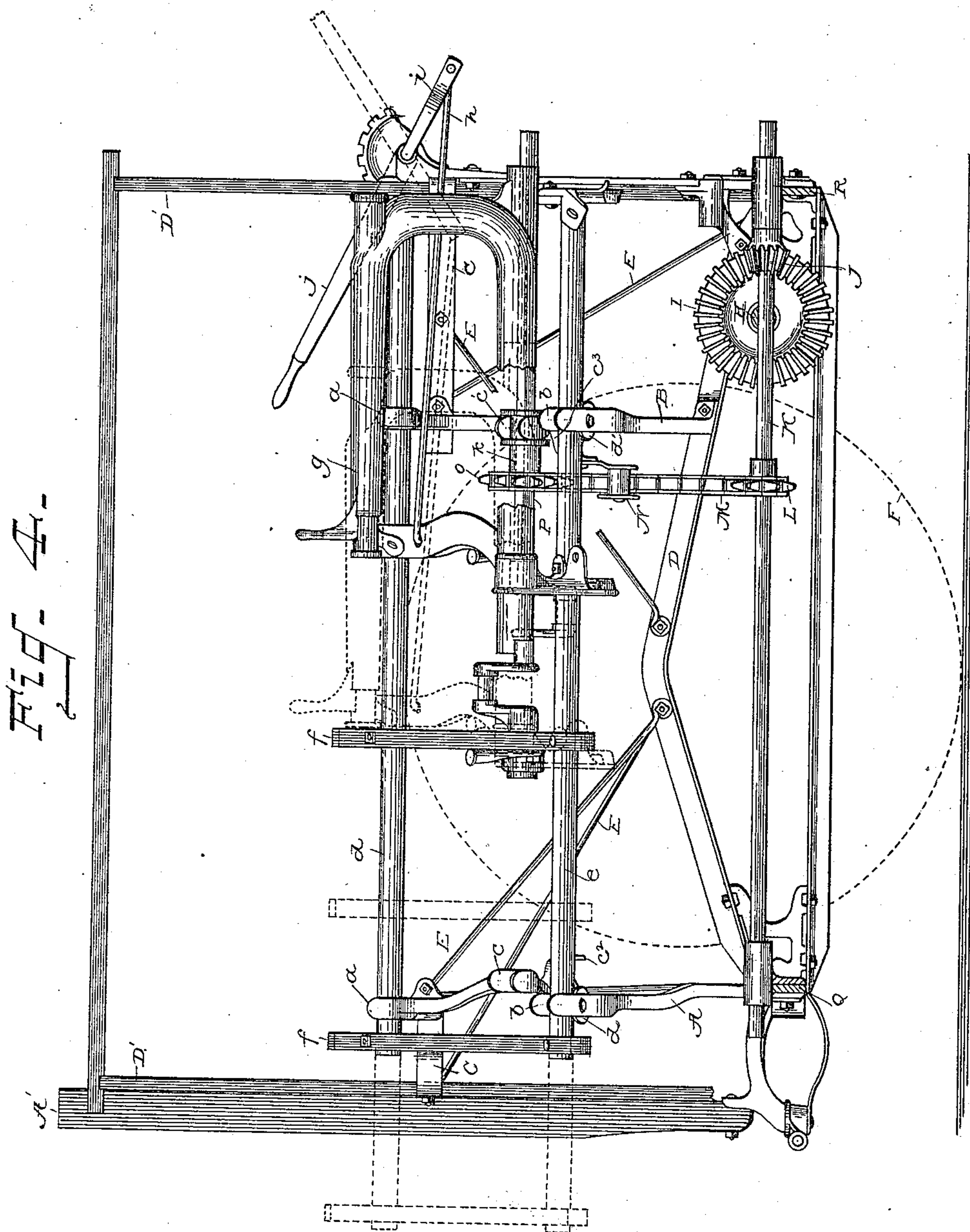
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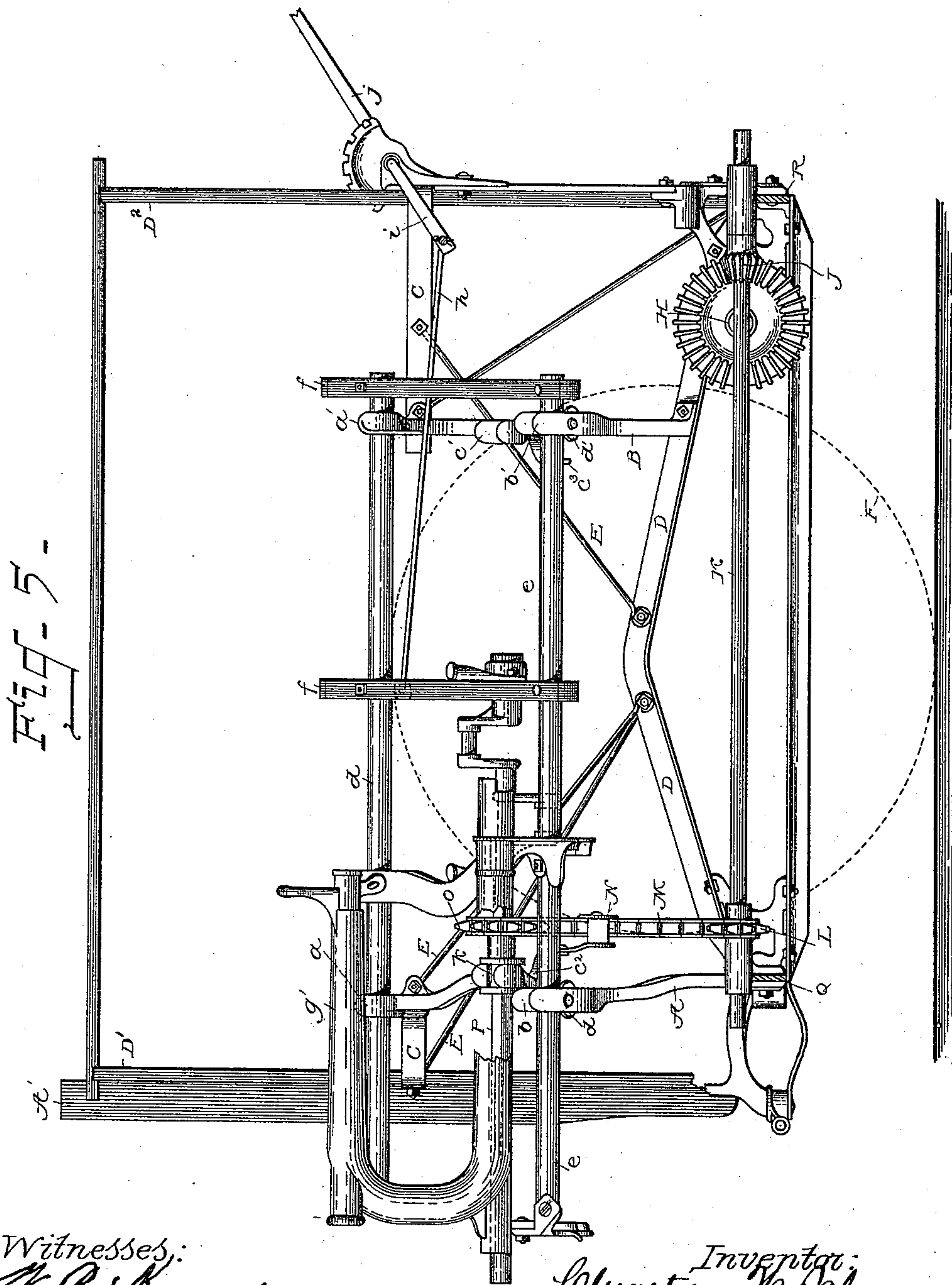
(No Model.)

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C. H. SALZMAN.
SELF BINDING HARVESTER.

No. 441,110.

Patented Nov. 18, 1890.



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UNITED STATES PATENT OFFICE.

CHRISTIAN H. SALZMAN, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE D. M. OSBORNE & COMPANY, OF AUBURN, NEW YORK.

SELF-BINDING HARVESTER.

SPECIFICATION forming part of Letters Patent No. 441,110, dated November 18, 1890.

Application filed August 7, 1890. Serial No. 361,259. (No model.)

To all whom it may concern:

Be it known that I, CHRISTIAN H. SALZMAN, a citizen of the United States, residing at the city of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Self-Binding Harvesters, of which the following is a specification.

My invention relates to improvements in self-binding harvesters, in which binders of the so-called "Appleby" type are attached for the purpose of binding, although it is not necessarily strictly confined thereto.

The object of my invention is to adapt the one harvester-frame to receive without change either a front or rear gear binder, as occasion may require; and to this end it consists in a novel arrangement and construction of supports for the binder and in the peculiarly-constructed driving-gear, by which motion may be transmitted to a binder in either of the forms mentioned.

My improvement is fully illustrated in the accompanying set of drawings on four sheets, made to a scale of one and one-half inch to one foot, in which—

Figure 1 is a binder-end elevation of the harvester frame-work, showing the improvement attached thereto. Fig. 2 is a partial elevation of the binder end of the harvester, taken from the front or cutter side of the same, and shows the form and construction of the front binder-supporting bracket, which is an integer of my invention. Fig. 3 is a partial elevation of the binder end of the harvester, taken from the rear side of the same, and shows the form and construction of the rear binder-supporting bracket, which also constitutes a part of my invention. Fig. 4 is a binder-end elevation of the harvester, showing a so-termed "rear-gear-binder" frame-work carried on my appliances. Fig. 5 is a similar view to that of Fig. 4, but showing a so-called "front-gear-binder" frame-work carried on my appliances.

Similar letters of reference refer to similar parts throughout the several views.

Primarily my invention consists of two especially-constructed binder-supporting brackets severally provided with guides, bearings, openings, and hanger-pieces.

The invention further consists of a sprocket-

wheel having an extended hub, which is passed on the packer-shaft of the binder, and also of a movable sprocket-wheel provided on the crank-shaft of the harvester, from whence motion is imparted to the aforementioned sprocket-wheel having the extended hub and provided on the packer-shaft of the binder by an ordinary drive-chain.

Referring to Figs. 1, 2, and 3, A is the front and B is the rear binder-supporting bracket. The binder-supporting bracket A is secured at its lower end in the desired position and place to the main frame Q at the front side of the harvester, and the binder-supporting bracket B is secured at its lower end in like manner to the outer truss D near the rear of the harvester, as seen in Fig. 1. At its upper end A is secured to the upper frame-work C of the harvester, and B is likewise secured at its upper end to the upper frame-work C of the harvester, both of the said binder-supporting brackets A and B being in a vertical position, as plainly shown in the several figures.

E E E E E are brace-rods, placed fore and aft of the harvester at its binder end, connecting the upper part of the frame-work C with the trusses D and D', (both the outer and inner,) and with the lower or main part of the frame-work Q and R of the front and rear of the harvester, the object of which said brace-rods E E E E E is for the substantial strengthening of the whole.

The binder-supporting brackets A and B are each provided at their upper ends with bearings *a* and *a'*, respectively, in which is carried the upper gas-pipe *d*, which forms a part of the binder frame-work. The said binder-supporting brackets A and B are also provided about midway with the openings *b* and *b'*, respectively, in which said openings are carried the concaved rollers *d* and *d'*, which serve as rotary bearings, on which is carried the lower gas-pipe *e*, which also forms a part of the binder frame-work. The gas-pipes *d* and *e* are connected forwardly by the ties *f f* and rearwardly by the sills of the main binder-casting *g*, which latter serves to carry the gearing and knoter parts of the binder, which I have not deemed it necessary to show. This arrangement of parts obtains

only in a binder of rear-gear construction, such as is shown in Fig. 4. In a binder of front-gear construction the arrangement of the several parts is reversed, as is shown in Fig. 5. The said binder-supporting brackets A and B are further furnished with the open guides c and c' , respectively, which are formed between the bearings a and a' and the openings b and b' , and serve to carry the extended hub k of the sprocket-wheel O on the packer-shaft P. The said binder-supporting brackets A and B are still further furnished with the projections or hangers c^2 and c^3 , respectively, which serve to carry the idler-pulley N, as may be required, and under which said idler-pulley N passes the drive-chain M, which connects the movable sprocket-wheel L, provided on the crank-shaft K, with the sprocket-wheel O, having the extended hub k on the packer-shaft P. It will be seen that in this manner motion is conveyed from the crank-shaft K to the packer-shaft P, and consequently to the several binder parts.

By referring to Figs. 2 and 3 it will be observed that the bearings a and a' of the binder-supporting brackets A and B are in alignment, as shown by the dotted line x , and that the openings b and b' and the concaved rollers d and d' carried therein are also in alignment, as shown by the dotted line x^2 . The open guides c and c' are likewise in alignment, as indicated by the dotted line x' .

The usual arrangement of parts is provided for shifting the binder forward and backward on the binder-supporting brackets A and B, and may briefly be described as follows: Referring to Figs. 1, 4, and 5, a link-rod h connects the binder-frame with the downwardly-turned end i of the shaft of the hand-lever j , which latter, when actuated by the operator, causes the shifting of the binder, as desired, the limit of the said shifting being shown in dotted lines in Fig. 4, wherein, as already mentioned, is delineated a rear-gear binder.

Motion is conveyed to the crank-shaft K as follows: A large driving sprocket-wheel G is secured to the main shaft Y of the bull-wheel F. A drive-chain (which is not shown) passes from the large driving sprocket-wheel G to a suitable sprocket-wheel (not shown) secured on the inner end of the shaft H, to the outer end of which latter is secured the bevel gear-wheel I, which engages with a beveled pinion J, which is fastened on the said crank-shaft K.

A and A' are the reel-posts of the harvester. B' and B² are the upper elevator-rollers of the same. C' and C² are the lower elevator-rollers of the same. D' and D² are the elevator side boards, and E' is the bottom board of the harvester-platform.

Having thus described the several parts of my invention, and also the several parts of the binder and harvester immediately connected therewith, it remains only to describe its utility and operation.

The several bearing-points of the binder-

supporting brackets are so arranged with relation to the frame-work of the binder as to support the latter without interference with any of the other parts of the binder, be it of rear-gear or of front-gear construction, either being equally carried in working position thereon. The only feature remaining to be provided for is that of an arrangement of devices for substantially operating either of the said differently-gearred binders effectually and in a positive manner on the same harvester. This is simply effected by a change in position of the sprocket-wheel L on the crank-shaft K and a change in position of the sprocket-wheel O and the idler-pulley N.

When a rear-gear binder is desired for use on a harvester having my improvement, the extended hub k (which is provided with suitable collars for assuring its place) of the sprocket-wheel O on the packer-shaft P is placed in the open guide c' of the binder-supporting bracket B, as shown in Fig. 4. The idler-pulley N is so arranged as to fall in line with the sprocket-wheel O when it is fastened on the hanger c^3 of the said binder-supporting bracket B. The movable sprocket-wheel L is moved on the crank-shaft K to a point thereon in vertical alignment with the said sprocket-wheel O and with the idler-pulley N and there secured. By means of the drive-chain M, passing from the sprocket-wheel L to the sprocket-wheel O, it will be evident that the proper motion is conveyed.

When a front-gear binder is desired for use on a harvester having my improvement, the extended hub k of the sprocket-wheel O on the packer-shaft P is placed in the open guide c of the binder-supporting bracket A, as shown in Fig. 5. The idler-pulley N is fastened to the hanger c^2 of the said binder-supporting bracket A and in line with the sprocket-wheel O. The movable sprocket-wheel L is moved on the crank-shaft K to a point thereon in vertical alignment with the sprocket-wheel O and the idler-pulley N and there secured. By means of the drive-chain M, passing from the sprocket-wheel L to the sprocket-wheel O, the proper motion is conveyed to the binder parts.

The several positions assumed by the interchangeable parts already described when a rear-gear binder is desired for use on a harvester having my improvement are fully shown in Fig. 4.

The several positions assumed by the interchangeable parts already described when a front-gear binder is desired to be carried and operated on the same harvester as provided with my aforementioned improvement are fully illustrated in Fig. 5.

From the foregoing description of parts it will be evident that a harvester having my improvement thereon is especially adapted for the carrying and operating of either a rear-gear or a front-gear binder, as the operator may elect, by the simple matter of changing the sprocket-wheel O and the idler-pulley

N from one binder-supporting bracket to the other, and by moving the movable sprocket-wheel L on the crank-shaft K to a point thereon in vertical alignment with the said sprocket-wheel O and the idler-pulley N.

Having thus described in detail the several parts of my improvement and the manner of operating the same, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a self-binding harvester, providing vertical binder-supporting brackets A and B, having bearings *a* and *a'*, openings *b* and *b'*, open guides *c* and *c'*, and hangers *c*² and *c*³, substantially constructed and arranged in the manner and for the purpose herein described and specified.

2. In a self-binding harvester provided with vertical binder-supporting brackets A and B, having bearings *a* and *a'*, openings *b* and *b'*, open guides *c* and *c'*, and hangers *c*² and *c*³, arranging and combining the same in horizontal planes for the support in working position of binders of rear or front gear construction, substantially in the manner herein described and specified.

3. In a self-binding harvester, the vertical binder-supporting brackets A and B, having bearings *a* and *a'* and openings *b* and *b'*, arranged in horizontal planes, for carrying the binder frame-work, and open guides *c* and *c'*, arranged in a horizontal plane, for carrying the extended hub *k* of the sprocket-wheel O of the packer-shaft P of the binder, substantially constructed and arranged in the manner and for the purpose herein described and specified.

4. In a self-binding harvester, the vertical binder-supporting brackets A and B, having bearings *a* and *a'* and openings *b* and *b'*, arranged in horizontal planes, for carrying the binder frame-work, open guides *c* and *c'*, also arranged in a horizontal plane, for carrying the extended hub *k* of the sprocket-wheel O

of the packer-shaft P of the binder, in combination with the movable sprocket-wheel L on the crank-shaft K, substantially in the manner and for the purpose herein described and set forth.

5. In a self-binding harvester, the vertical binder-supporting brackets A and B, having bearings *a* and *a'*, openings *b* and *b'*, open guides *c* and *c'*, and hangers *c*² and *c*³, arranged in horizontal planes, the sprocket-wheel O, having the extended hub *k*, the movable sprocket-wheel L of the crank-shaft K, the whole arranged and combined for carrying binders of either rear or front gear construction, substantially in the manner herein specified and set forth.

6. A harvester having its wheel-frame provided with two substantially duplicate supporting-brackets, one at the front and the other at the rear, each adapted, substantially as described, to receive and directly sustain the two fore-and-aft supporting rods or sills of either a front or rear geared binder.

7. A harvesting-machine having its wheel-frame provided with the front and rear binder-supports A and B, substantially as described, in combination with a movable sprocket-wheel O, adapted for application to either of said binder-supports at will, a driving-shaft K, a sprocket-wheel movable lengthwise of said shaft, and a chain for connecting said sprocket-wheels.

8. A harvester having its wheel-frame provided with two binder-supporting brackets adapted to permit the application of either a front or rear gear Appleby binder, in combination with driving-gear for said binder movable from front to rear, and vice versa.

In testimony whereof I have hereunto set my hand this 25th day of June, A. D. 1890.

CHRISTIAN H. SALZMAN.

In presence of—

B. TIMMERMAN,
O. T. WILSON.