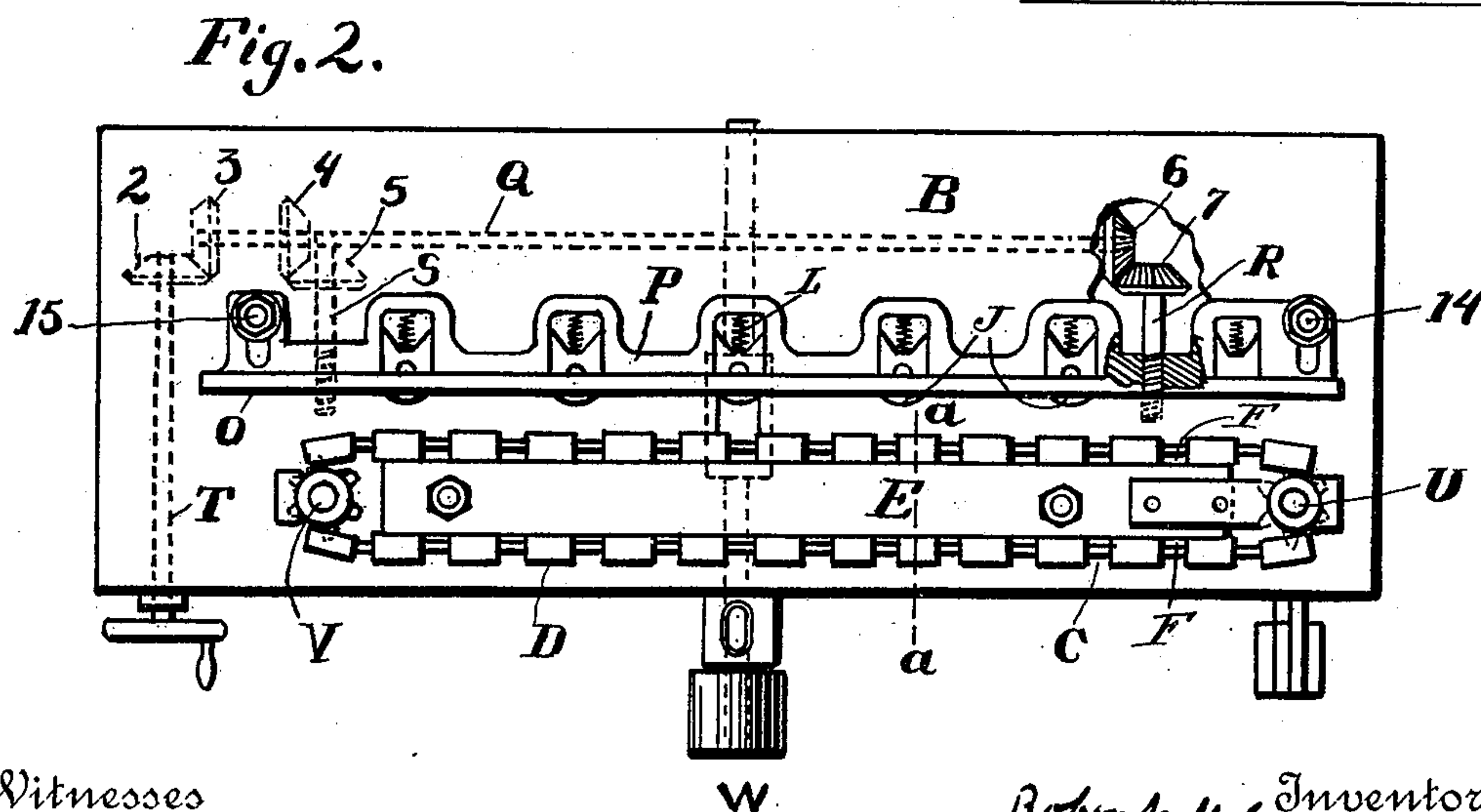
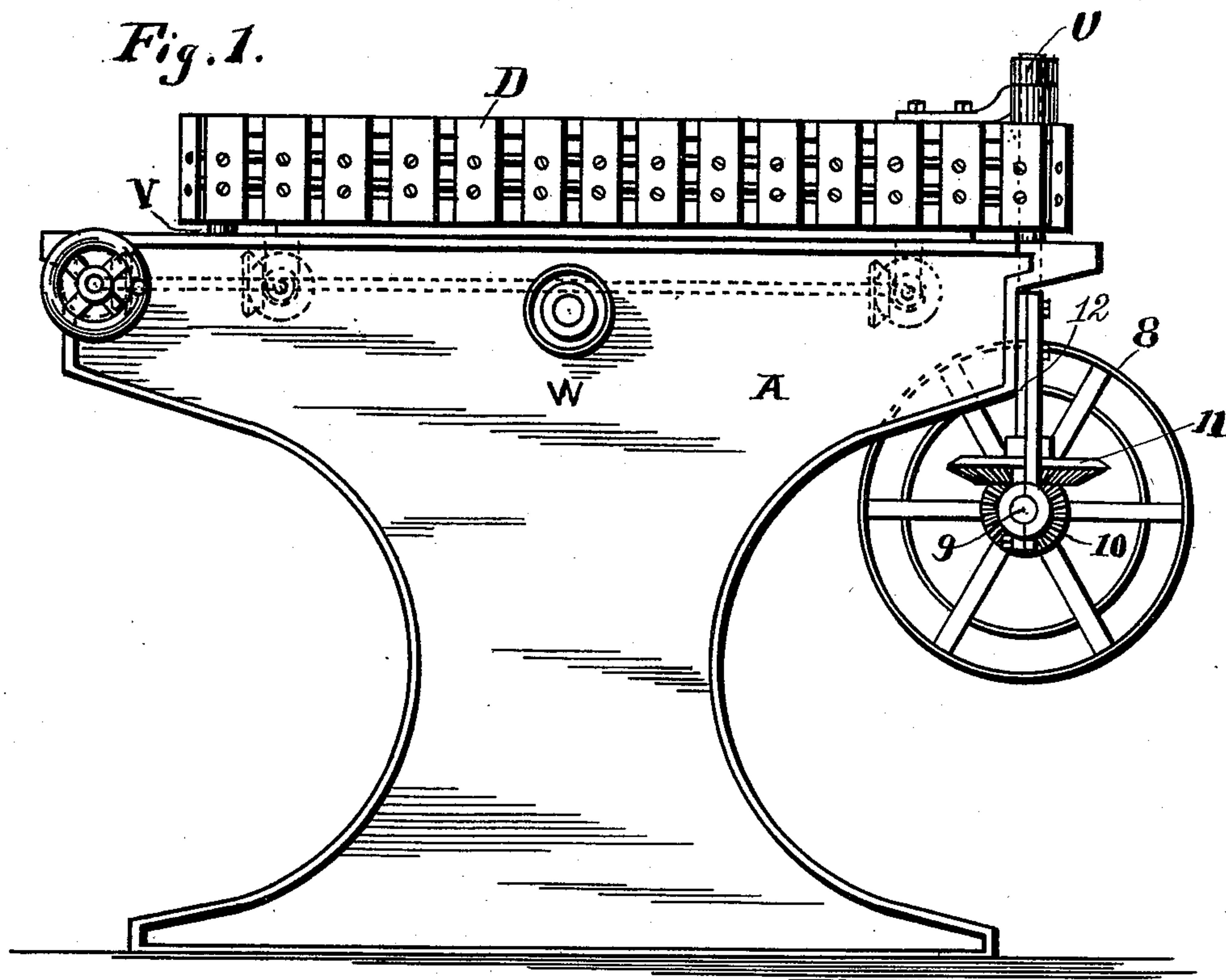


3 Sheets—Sheet 1.

GLUE JOINTING MACHINE.

Patented Apr. 5, 1898.



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 3 Sheets—Sheet 2.
 R. M. GLEASON, E. J. JACKOBOICE & A. H. WATERSON.
 GLUE JOINTING MACHINE.

No. 601,956.

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Fig. 3.

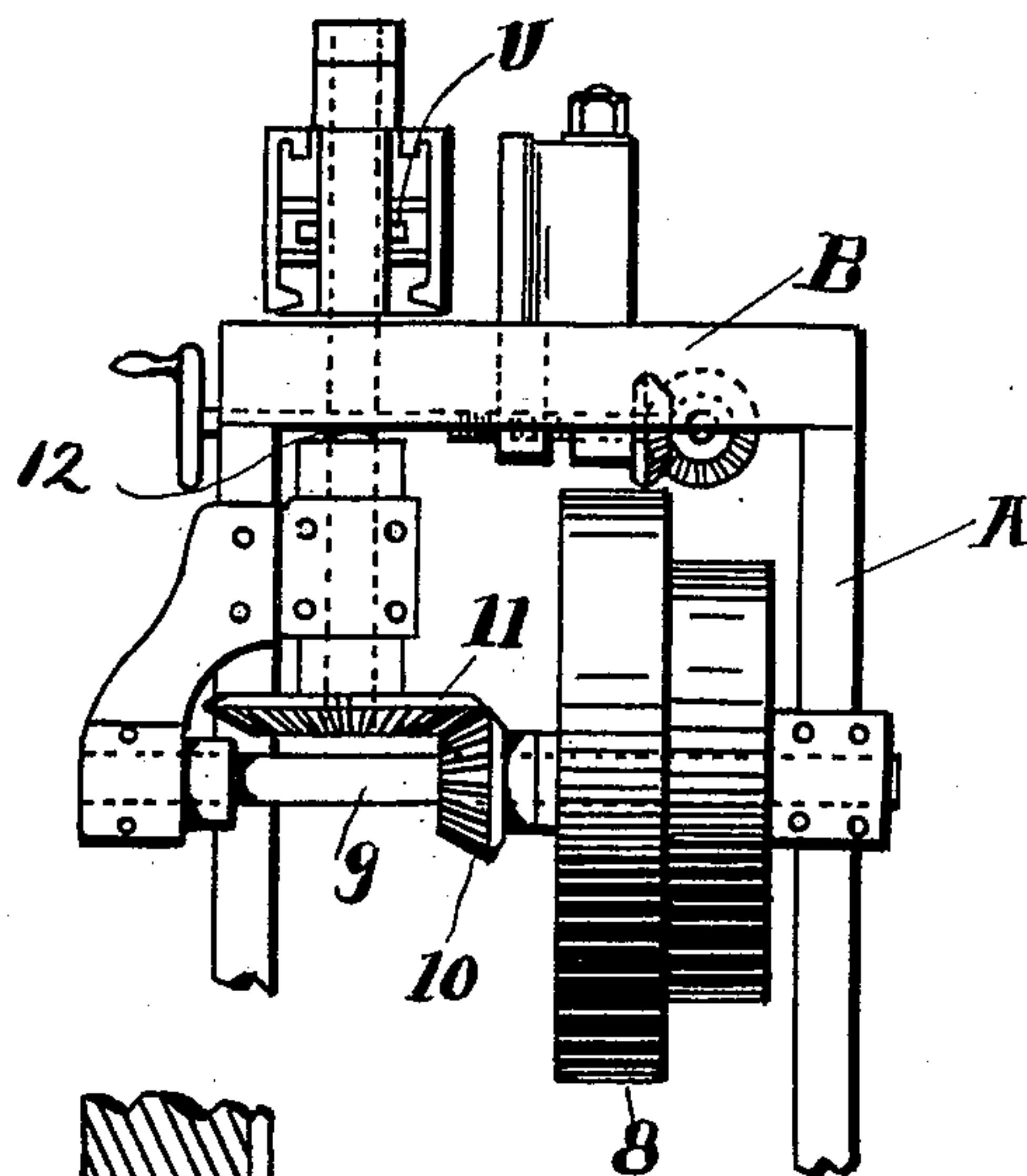


Fig. 4.

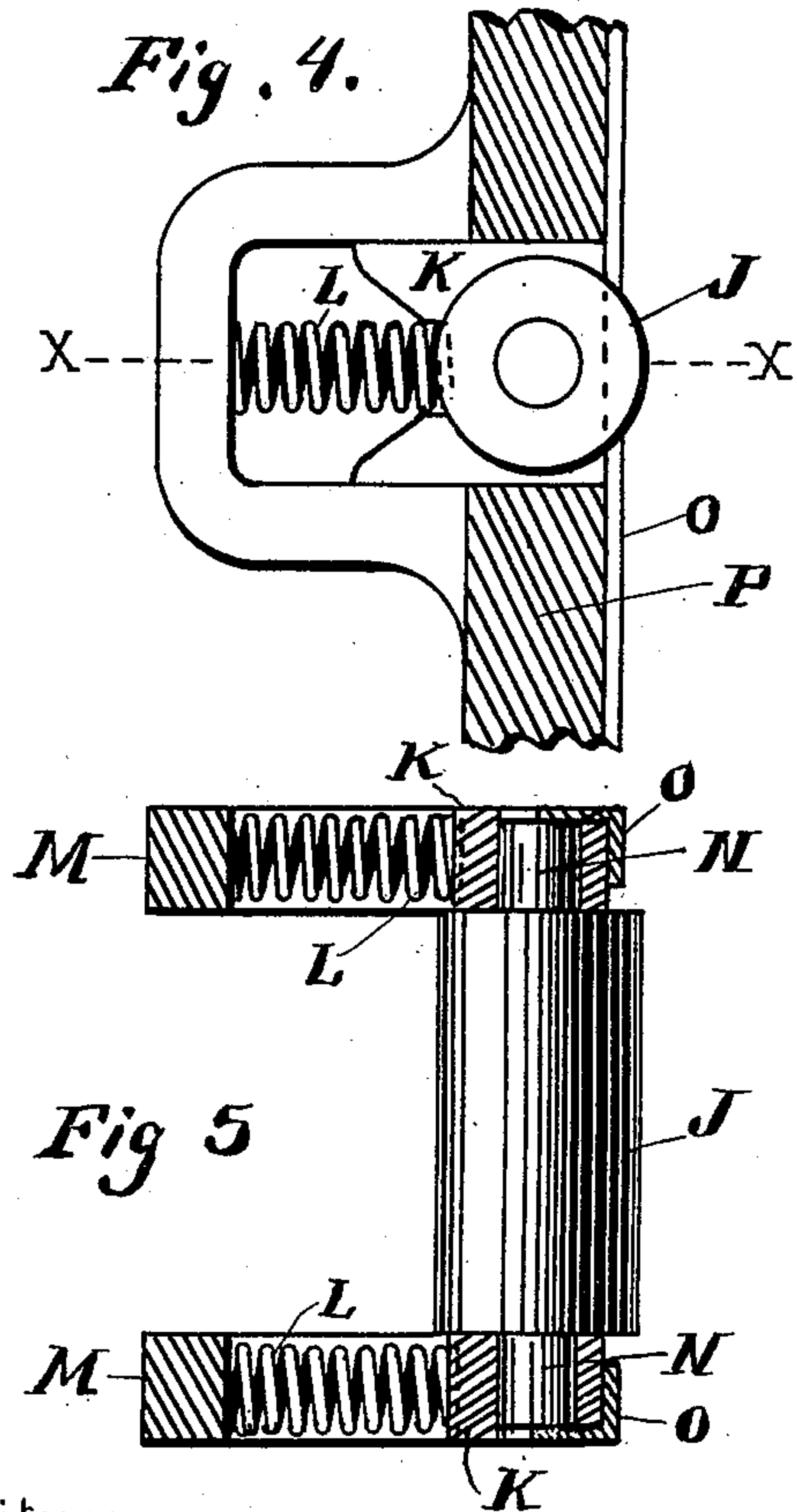


Fig. 5.

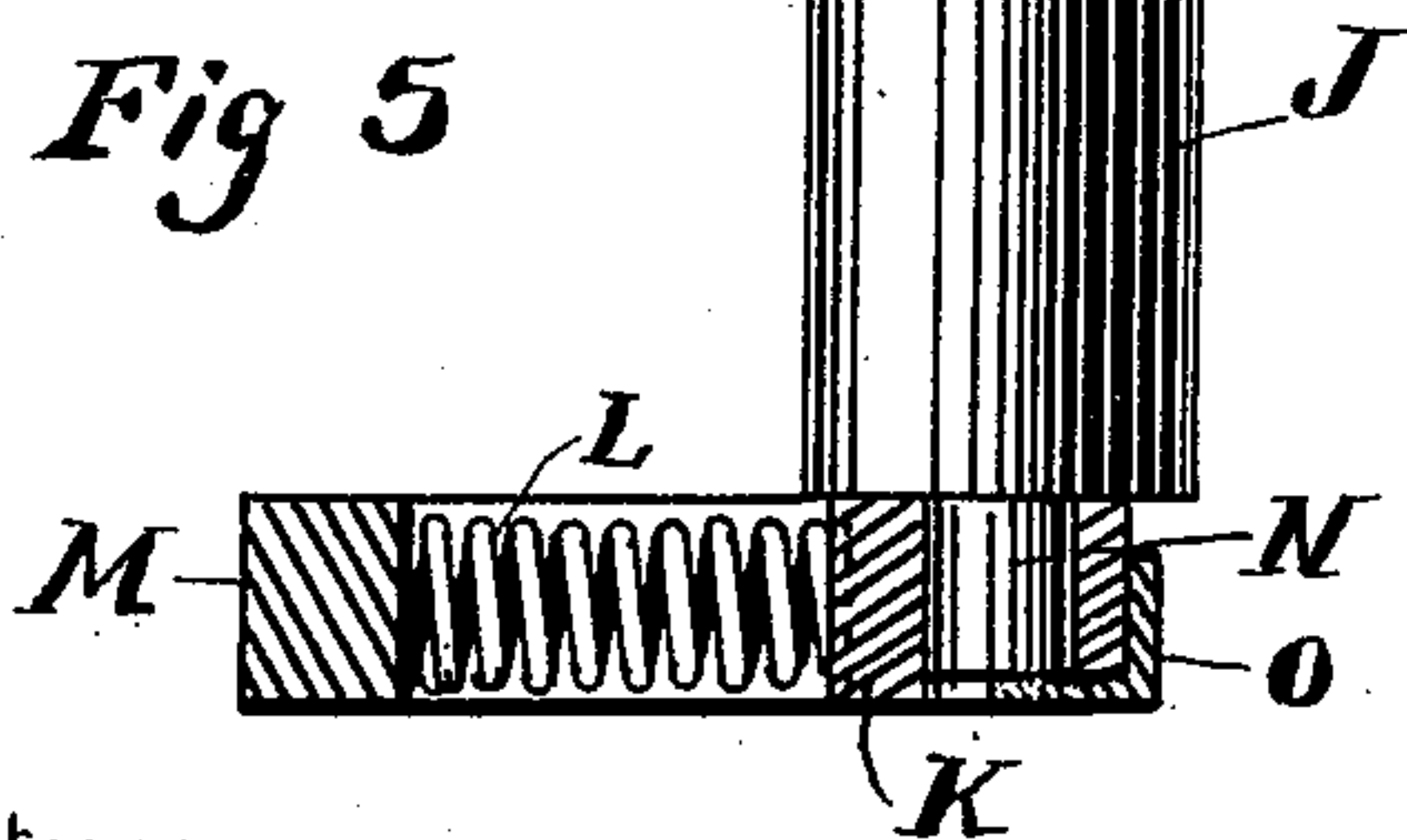
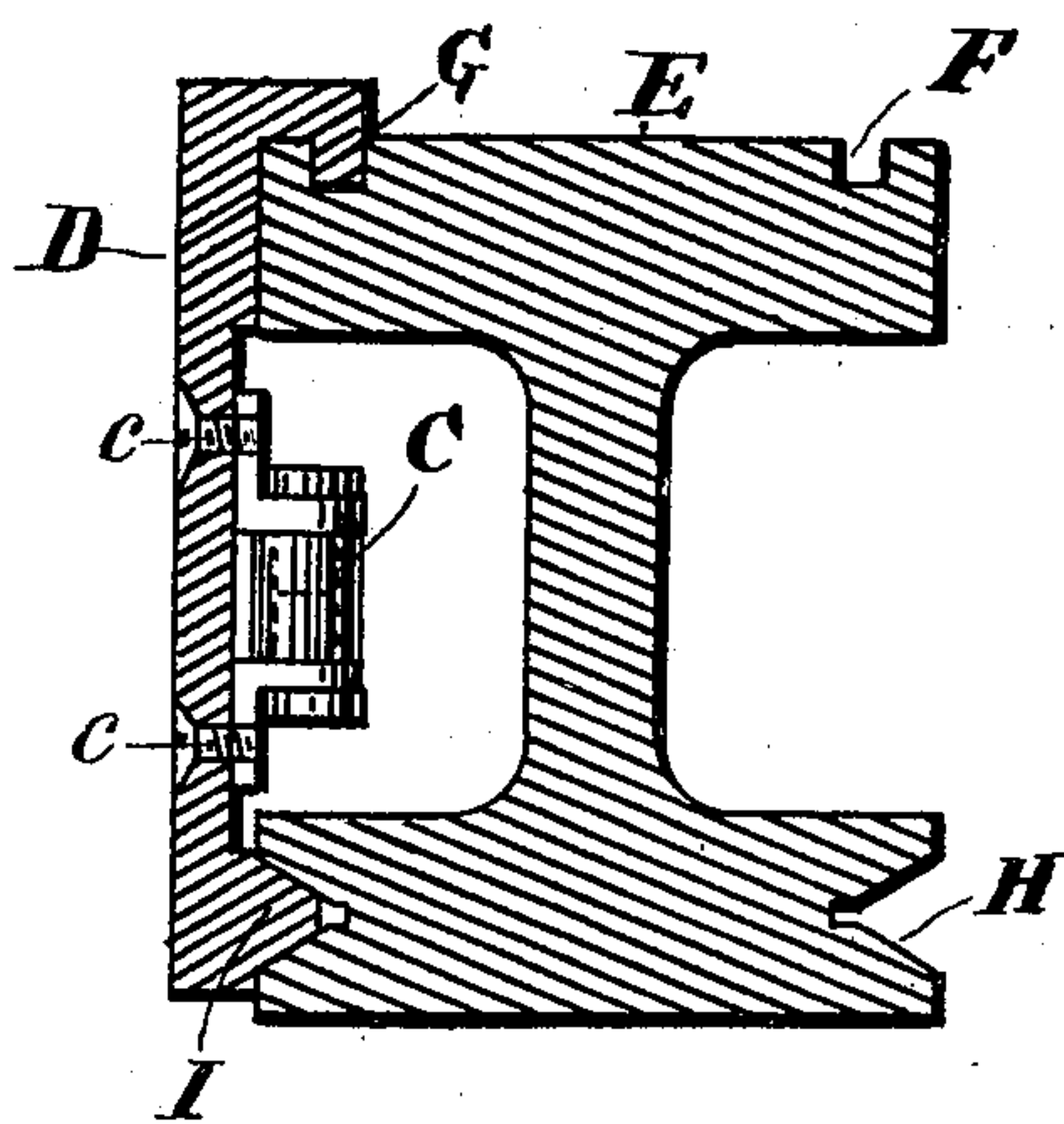


Fig. 6.



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3 Sheets—Sheet 3.

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Fig. 7.

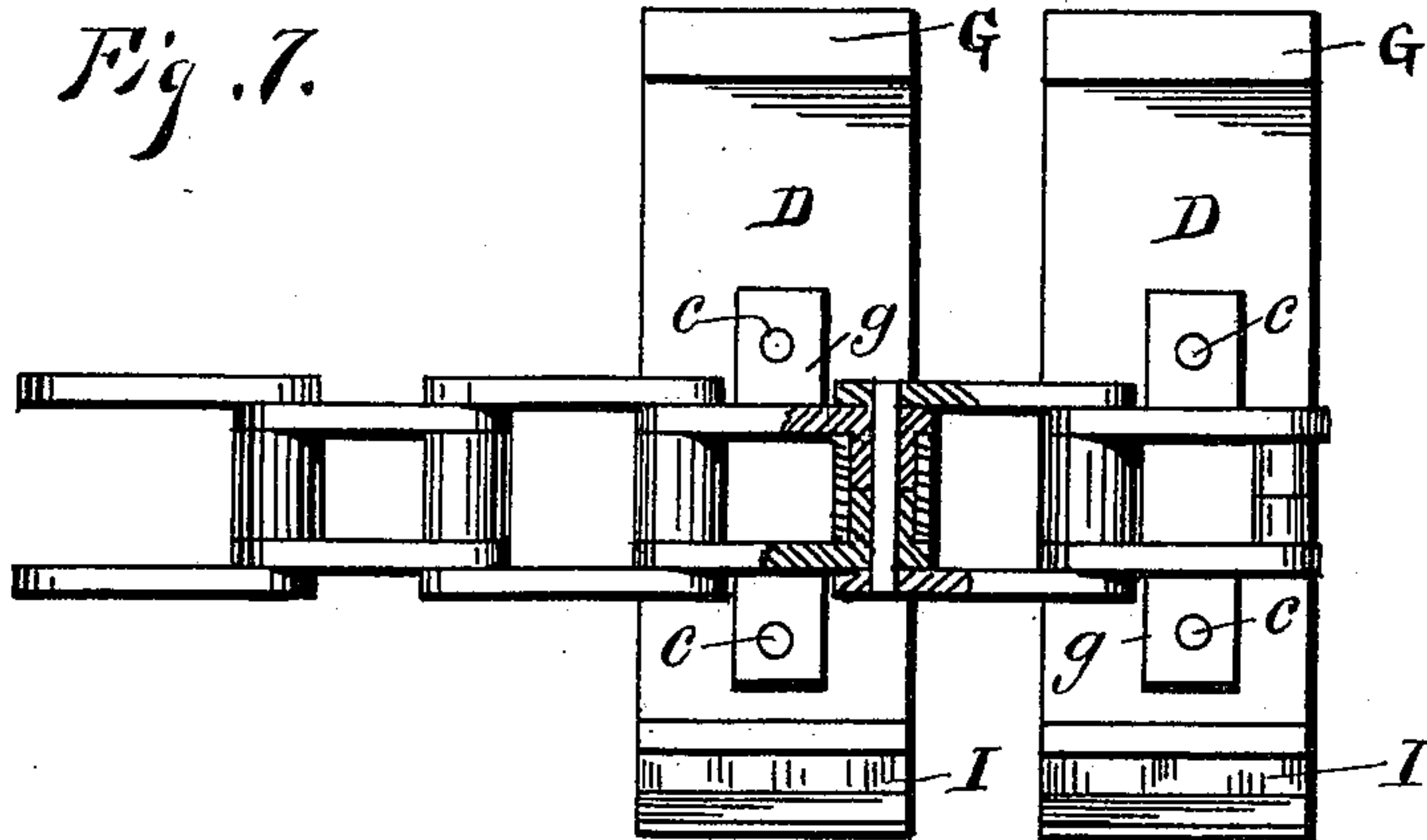
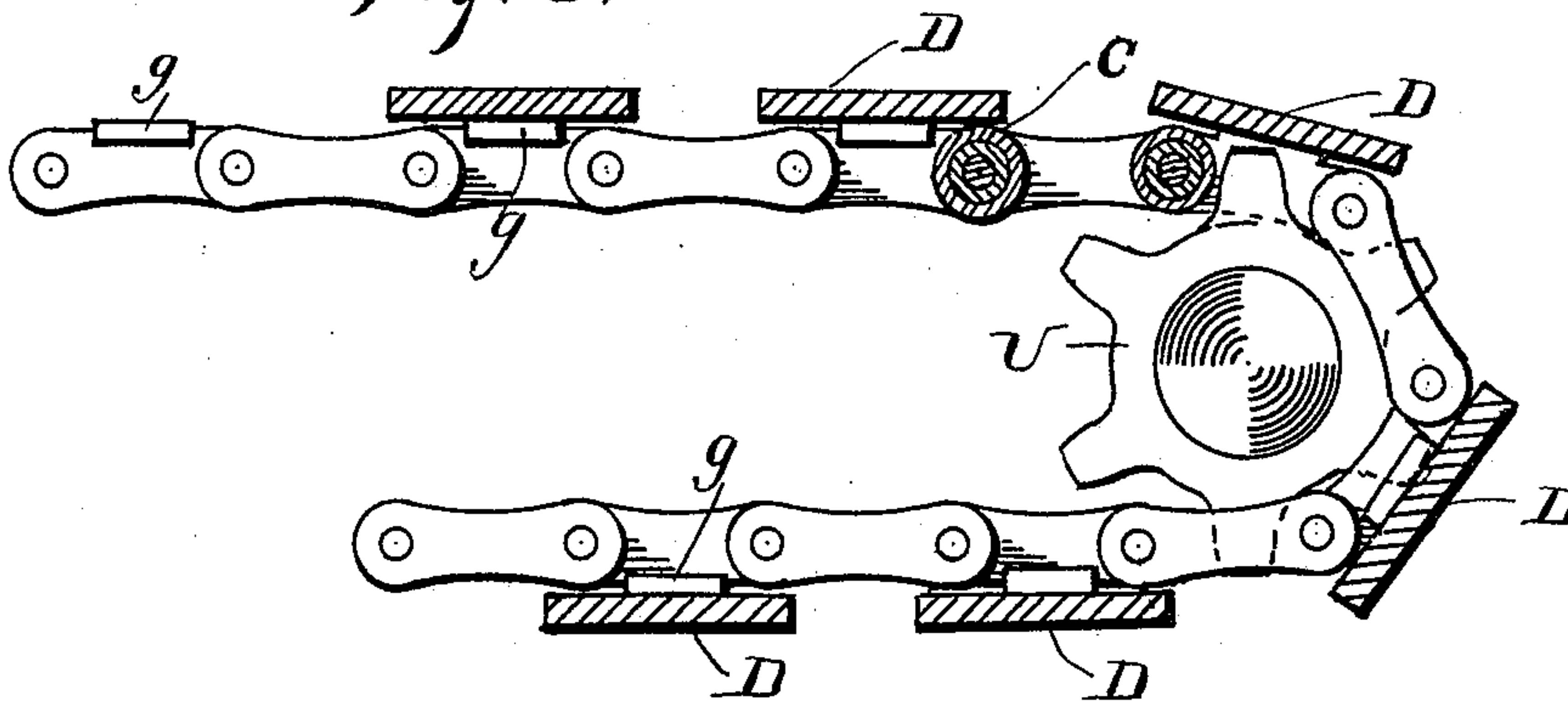


Fig. 8.



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UNITED STATES PATENT OFFICE.

ROBERT M. GLEASON, EDWARD J. JACKOBOICE, AND ALFRED H. WATERSON, OF GRAND RAPIDS, MICHIGAN.

GLUE-JOINTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 601,956, dated April 5, 1898.

Application filed July 12, 1897. Serial No. 644,313. (No model.)

To all whom it may concern:

Be it known that we, ROBERT M. GLEASON, EDWARD J. JACKOBOICE, and ALFRED H. WATERSON, citizens of the United States, residing at the city of Grand Rapids, in the county of Kent and State of Michigan, have invented a certain new and useful Glue-Jointing Machine, of which the following is a specification.

10 This invention relates to a new and improved machine for forming wood into suitable shape to be attached by glue.

15 The invention consists in mounting on a table of suitable form an endless feeding device provided with slats adapted to bear against one side of the stock to be operated upon and a series of pressure-rollers adapted to retain the stock in contact with the surface of the slats, which slats are moved by the endless chain or other suitable means, giving a continuous forward motion to the stock.

20 The objects of our invention are, first, to produce a continuous feed motion, whereby the stock is fed over the jointer continuously in one direction, so that the operator can keep the machine continuously at work; second, to retain the stock at all times in position to be operated upon by the jointer; third, to support the slats, which are moved by the endless chain in an exact alinement by means of the devices hereinafter described; fourth, to furnish a machine which prepares the stock for the glue-joint by a single operation. These objects we accomplish by means of the mechanism illustrated in the accompanying drawings, in which—

25 Figure 1 is a side elevation of a machine constructed in accordance with our invention, showing the outer face of the slats which, in connection with the chain, form the continuous feed. Fig. 2 is a plan view showing a single feed and the pressure-roller supported by a pressure-bar and means for adjusting the same. Fig. 3 is an end elevation. Fig. 30 4 is a plan section of one of the pressure-rollers with its spring attached. Fig. 5 is a vertical sectional view on line X X of Fig. 4, the roller and spring being shown in elevation. Fig. 6 is a sectional view on line A A of Fig. 2, the chain on one side not being shown. Fig. 7 is a rear view of two slats, showing in detail

the links of the chain connected thereto. Fig. 8 is a detail view illustrating the manner of engagement between the gear-wheel and chain.

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

A shows the general framework or support of the machine, which is preferably constructed of metal and may be of any suitable form.

B represents a horizontal bed supported by the frame.

C is a sprocket or endless chain. This sprocket-chain is provided with a series of slats, (shown by D D,) which are attached to the links of the chain by screws or bolts c, as most clearly shown, Fig. 6. Each alternate link of the chain is provided with two oppositely-projecting lugs g g, which are adapted to lie flat against the rear sides of the slats and are rigidly secured to the latter by the bolts or screws c.

E represents a stationary guide, which in the example of my invention shown in the drawings supports the slat both at the top and bottom and is provided with a groove on either side which allows the chain to move within the groove of this stationary guide. At the top of the stationary guide there are two grooves, (shown by F F.) In the lower portion of the stationary guide there are also grooves which are substantially V-shaped, (shown by H H.) Each slat D is provided with a tongue G, which engages with the groove F in the upper part of the stationary guide and is provided with a V-shaped tongue I, which engages with the V-shaped groove in the base or lower part of the guide.

The peculiar form of the stationary guide E is shown in Fig. 6, in which figure the slat is shown in position on one side, and the means for attaching the slat to the endless chain is also exhibited. It will be understood that this endless chain travels on the sprocket-wheels U and V in the manner shown in Fig. 2. The slats upon the sprocket-chain always travel in the same direction on the side which feeds the stock to the jointer and run close to the bed B. Adjacent to the slats on the sprocket-chain and a sufficient distance therefrom to receive the stock is a series of pressure-rollers J, supported in a framework O.

To the framework O is attached the journal-box support P, which supports the journal-box $\frac{1}{2}$ of the pressure-rollers.

The general arrangement and construction of the journal-boxes, the journals, and the pressure-rollers are fully shown in Figs. 4 and 5. These journal-boxes are adapted to have a movement in their supports and are held in position by means of the springs L L, which springs are also fully shown and illustrated in Figs. 4 and 5, as well as in Fig. 2. The pressure-rollers are normally held in alinement and parallel with the faces of the slats carried by the chain by the springs L L, which force the journal-boxes against the stop flanges or ribs o, formed on the edges of the framework O; but said springs yield to compensate for any unevenness or irregularity in the work.

The frame O is provided with a transverse slot at either end, as shown in Fig. 2, and passing through these slots are the pins or studs 14 and 15, which serve to secure the frame O and its connected parts to the bed of the machine, so as to retain the plane of the faces of the rollers parallel with the adjacent faces of the slats. The slots through which the pins 14 and 15 pass allow the frame O, together with the rollers and their connected parts, to be adjusted toward and from the face of the adjacent slats.

In order to adapt the machine to stock of different thicknesses, we have provided a means for adjusting the pressure-rollers to and from the chain-feed. For this purpose we provide a suitable shaft T, having a bevel-gear 2 engaging with bevel-gear 3, gear 2 being securely attached to shaft T and gear 3 being securely and rigidly attached to the shaft Q, so that by the revolution of T a like revolution will be given to Q. Gear 4 is rigidly attached to the shaft Q and engages with and operates gear 5, which is rigidly attached to the shaft S, and gear 6, which is rigidly attached to the shaft Q, engages with gear 7 on the shaft R. The shafts S and R are each provided with screw-threads engaging with the screw-threads upon the framework O, which supports the pressure-rollers, and the gears are made of the same size at each end of the shaft Q, which engages with the gears on the shafts S and R, so that by the revolution of the shaft T, which conveys through the gears described a revolution to the shaft Q, the gearing on the shafts Q and the shafts R and S give the same revolution to the shafts R and S and thereby adjust the series of rollers and the frames supporting them to and from the surface of the chain-feed, as described.

In operation let us suppose that the stock be fed from the left-hand end of the machine as the same is shown in Fig. 2. The stock will rest upon the bed B, and the movement of the chain-feed will carry the stock between the perpendicular slats D and the pressure-rollers J. The pressure-rollers will retain

the stock in close contact to the slats on the sprocket-chain, and the sprocket-chain, moving to the right, will carry the stock over the jointing-knives, the stock being held in a perpendicular position and in close contact with the table by means of the pressure-rollers and the slats. As the stock passes through and over the knife it will leave room for another piece, so that the operation is continuous. The power may be applied to the sprocket-chain by means of the pulley 8, receiving the same from any suitable source.

9 is the shaft or arbor of the pulley 8.

10 is a bevel-gear on the shaft 9, which engages with the bevel-gear 11 on the shaft 12, the shaft 12 carrying the sprocket-wheel U, all shown in Fig. 3 of the drawings.

W shows a pulley on the shaft of the cutter, and the same may be attached to any suitable machinery for the purpose of operating the cutter or jointing-knife.

It will be noticed that the stationary guide E is substantially T-shaped, having projections at top and bottom for the purpose of supporting and retaining the slats in proper position, and the slats engaging with the stationary guide at top and bottom support the chain, excepting where said chain passes around the sprocket-wheels. This construction allows room for the chain within the grooves or between the extended portions of the guide itself.

It is necessary that the slats be supported so that they cannot be pressed downwardly beyond their required position. The grooves F at the top of the guide E furnish such a support, and being on the top of the guide form a convenient method of attaching the sprocket-chains and slats to the guide. The lower beveled grooves H, which receive the beveled projections or tongues upon the slats, also prevent the slats from being raised or lowered, retaining the same in the desired position, notwithstanding the pressure to which the slats are subjected.

The object of forming a beveled or V-shaped groove H is to form a guide for the slats which will always remain solid, preserve the slats in a straight line, and will take up any wear which may be occasioned. Instead of beveling the groove on both sides one side might be of another form.

Having thus described our invention, what we claim to have invented, and desire to secure by Letters Patent, is—

1. In a jointing-machine, the combination with a bed, of a stationary guide supported on the bed and grooved on its opposite sides, sprocket-wheels arranged at the opposite ends of said guide, means for rotating the sprocket-wheels, an endless chain lying in the grooves on the sides of the guide and driven by the sprocket-wheels, a series of vertical slats carried by the chain and each provided at its top with a tongue which engages and travels in a corresponding groove in the top of the guide, and at its bottom with a beveled tongue

which engages and travels in a beveled groove in the side of the guide, a series of pressure-rollers arranged parallel to the feed-surface of the slats, a frame supporting said rollers, and means for adjusting said frame toward and from the slats, substantially as described.

2. In a jointing-machine, the combination with a bed, of a stationary guide supported on the bed, and grooved on its opposite sides, sprocket-wheels arranged at the opposite ends of the guide, an endless chain passing around said sprocket-wheels and lying in the grooves on the opposite sides of the guide, means for driving the sprocket-wheels, vertical slats carried by the chain and each provided with an overhanging tongue at its top which engages and travels in a corresponding groove formed in the upper face of the guide and at its bottom with a beveled tongue which engages and travels in a corresponding beveled groove in the side of the guide, a series of pressure-rollers mounted in movable journal-boxes, a spring for each journal-box operating to push forward the journal-box and roller, a frame carrying journal-boxes, rollers and springs, and means for adjusting the frame toward and from the feeding-surface of the slats, substantially as described.

3. In a jointing-machine, the combination with a bed, of a stationary guide supported thereon, sprocket-wheels arranged at the ends of the guide, means for rotating the sprocket-wheels, an endless sprocket-chain driven by the sprocket-wheels, vertical slats carried by the sprocket-chain, tongues formed on the

tops of the slats and engaging and traveling in a corresponding groove in the top of the guide, tongues formed on the bottoms of the slats and engaging and traveling in a corresponding groove in the side of the guide, and means for holding the stock parallel to and in contact with the feeding-surface of the slats, substantially as described.

4. In a jointing-machine, the combination with a stationary guide having grooves formed in its top and side respectively, sprocket-wheels arranged at the ends of the guide, an endless chain driven by said sprocket-wheels about said guide, vertical slats carried by the sprocket-chain and each provided at its top and bottom with tongues which engage and are guided by the grooves in the guide, a series of pressure-rollers, each roller mounted in a movable journal-box, a spring for each journal-box and roller, a frame for supporting said journal-boxes, rollers and springs, and means for simultaneously adjusting the opposite ends of said frame for adjusting uniformly the entire series of rollers toward and from the feeding-surface of the slats, substantially as described.

In witness whereof we have hereunto set our hands and seals in the presence of two witnesses.

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ALFRED H. WATERSON.

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