

No. 731,420.

PATENTED JUNE 23, 1903.

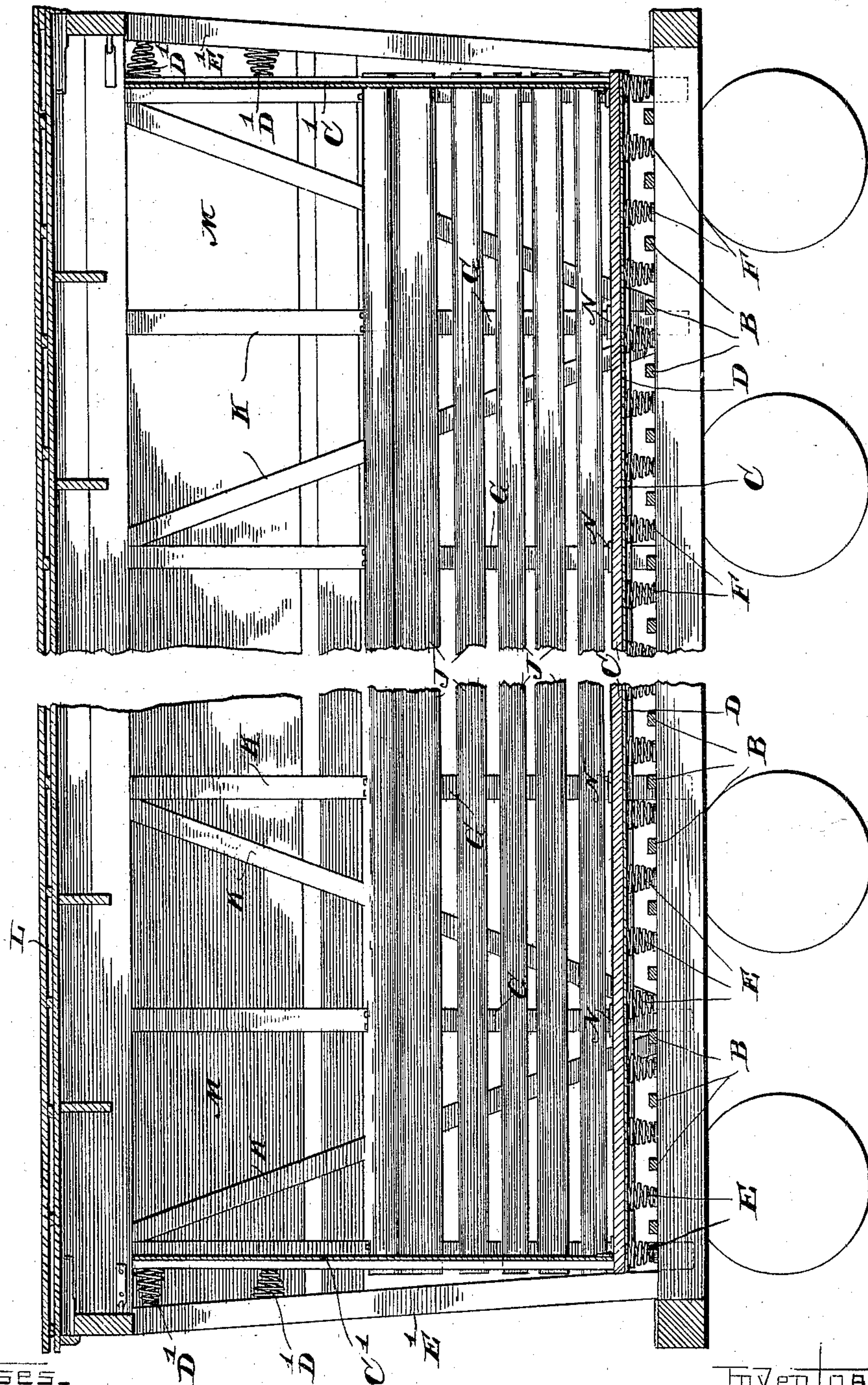
A. J. ADAMSON.
FREIGHT CAR.

APPLICATION FILED JULY 19, 1901.

NO MODEL.

3 SHEETS—SHEET 1.

Fig. 1.



WITNESSES.

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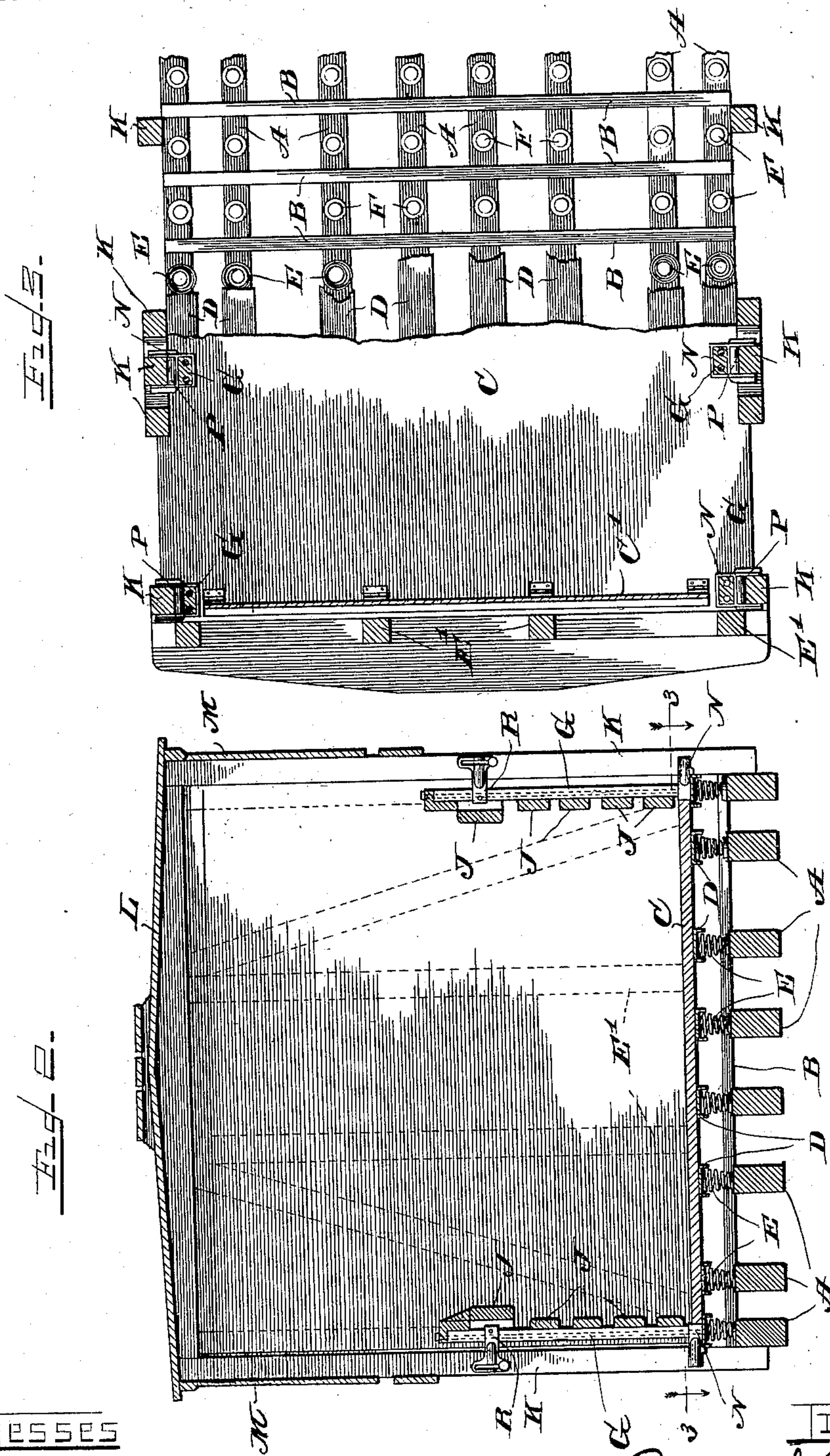
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3 SHEETS—SHEET 2.



WITNESSES

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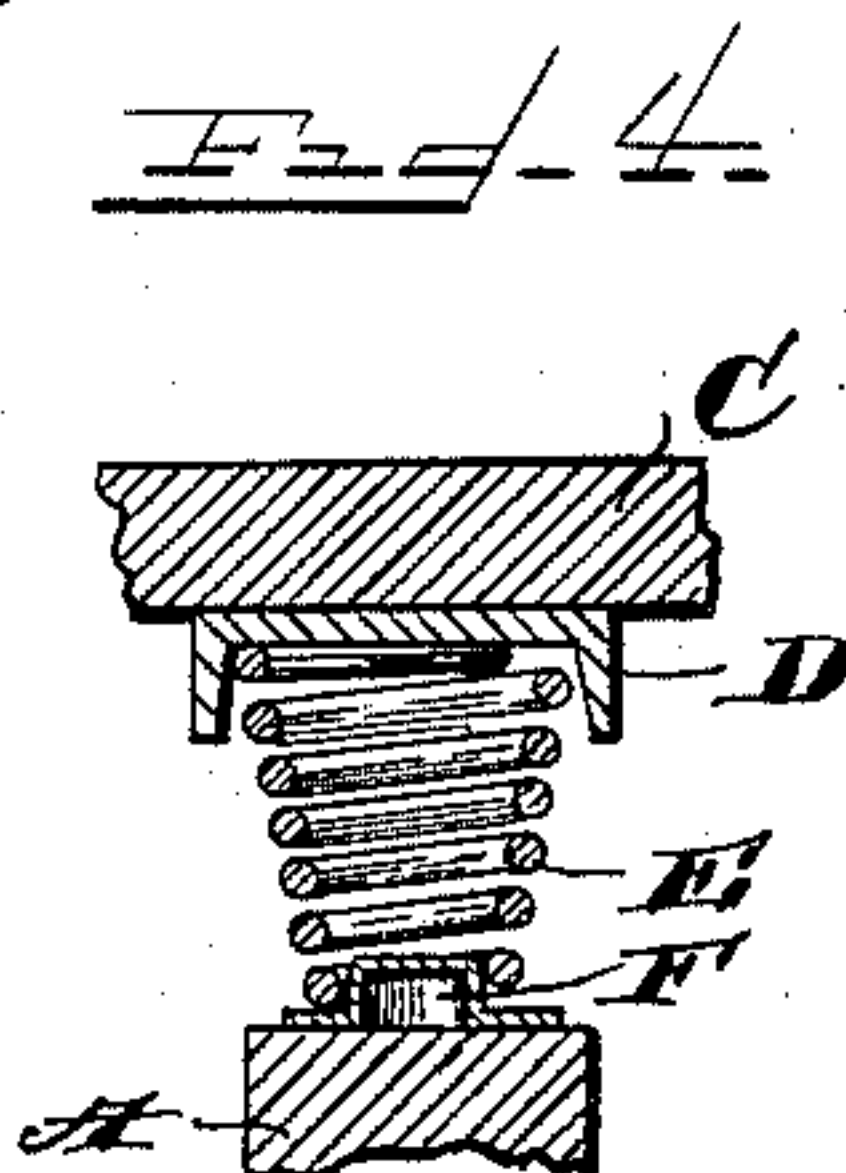
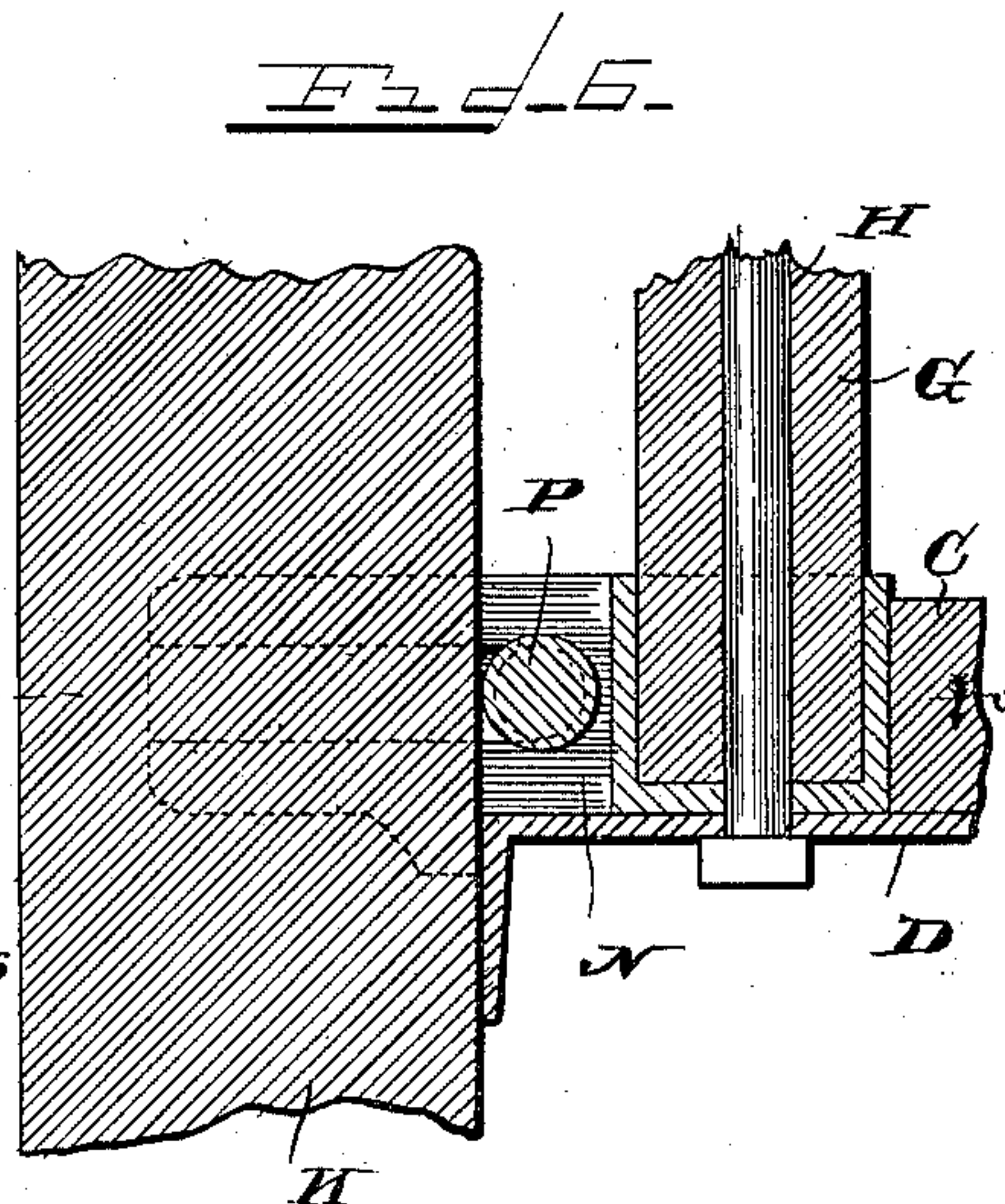
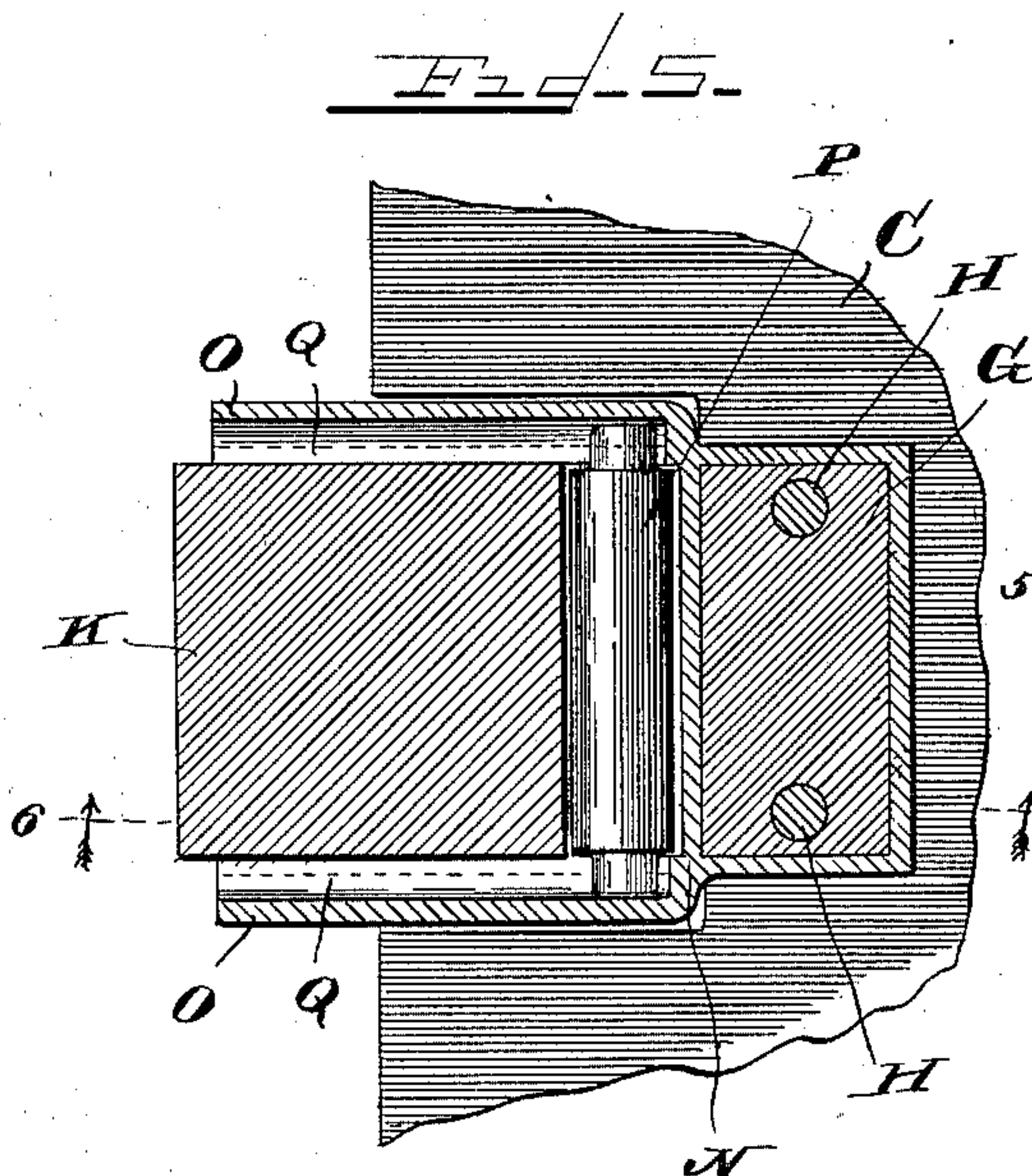
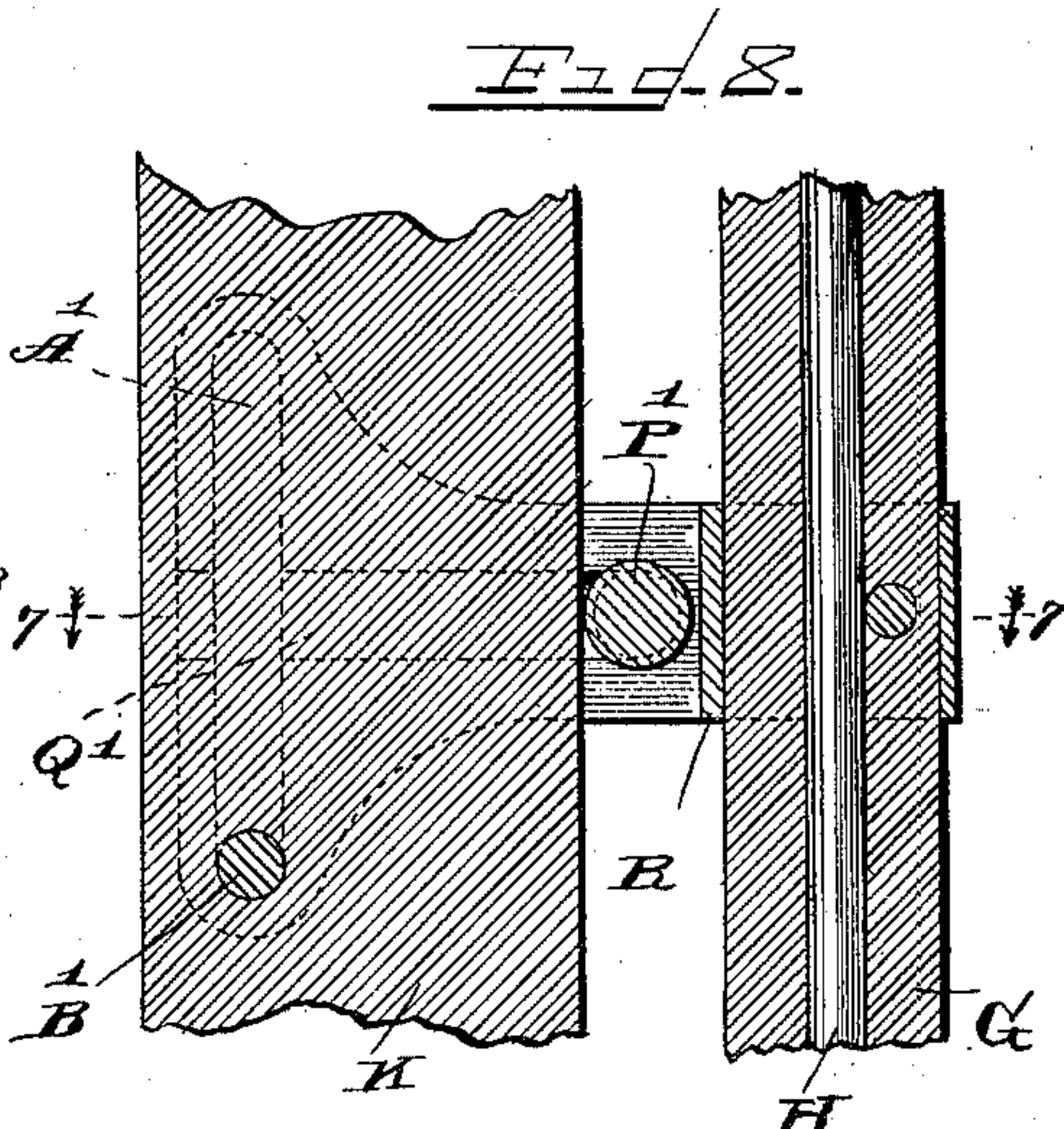
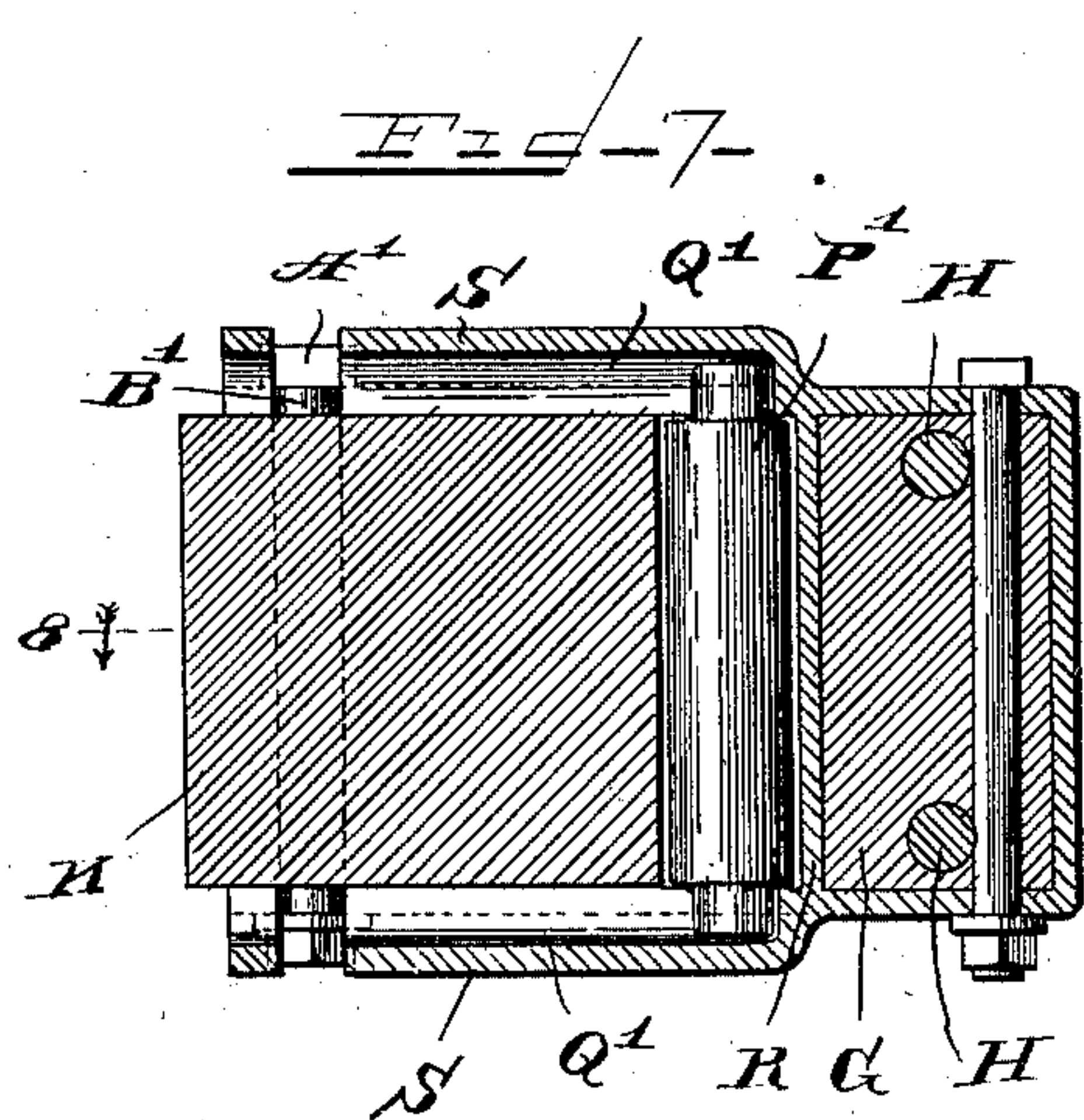
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NO MODEL.

3 SHEETS—SHEET 3.



WITNESSES.

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UNITED STATES PATENT OFFICE.

ANDREW J. ADAMSON, OF CHICAGO, ILLINOIS, ASSIGNOR TO ADAMSON STOCK CAR COMPANY, A CORPORATION OF SOUTH DAKOTA.

FREIGHT-CAR.

SPECIFICATION forming part of Letters Patent No. 731,420, dated June 23, 1903.

Application filed July 19, 1901. Serial No. 68,905. (No model.)

To all whom it may concern:

Be it known that I, ANDREW J. ADAMSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Freight-Car, of which the following is a specification.

This invention relates to freight-cars.

The object of the invention is to simplify and improve the construction of freight-cars, and especially freight-cars designed to transport cattle, stock, china or glass ware, fruit, or other freight liable to be bruised or injured by the shocks, jolts, or jars usually encountered in the handling and running of freight-trains, the special object being to provide against bruising or injuring the freight during the transportation thereof.

The invention consists substantially in the construction, combination, location, and arrangement of parts, all as will be more fully hereinafter set forth, as shown in the accompanying drawings, and finally pointed out in the appended claims.

Referring to the accompanying drawings and to the various views and reference-signs appearing thereon, Figure 1 is a broken view, in vertical longitudinal section, of a car embodying the principles of my invention. Fig. 2 is a transverse section of the same. Fig. 3 is a broken view in horizontal section on the line 3 3, Fig. 1, looking in the direction of the arrows, a portion of the floor being broken away to show the arrangement of sills and supporting-springs. Fig. 4 is a broken detail sectional view showing the construction and arrangement of a floor-supporting spring. Fig. 5 is a broken detail view in horizontal section on the line 5 5, Fig. 6, looking in the direction of the arrows and showing the arrangement of antifriction-rollers for guiding the vertical movements of the floor. Fig. 6 is a similar view on the line 6 6, Fig. 5, looking in the direction of the arrows. Fig. 7 is a view similar to Fig. 5 on the line 7 7, Fig. 8, looking in the direction of the arrows and showing the arrangement of antifriction-rollers at the upper ends of the upright posts of the inner wall of the car. Fig. 8 is a view similar to Fig. 6 on the line 8 8, Fig. 7, looking in the direction of the arrows.

The same part is designated by the same reference-sign whenever it occurs throughout the several views.

In the transportation by rail of various kinds of freight—such as stock, cattle, fruit, crockery, china or glass ware, and the like—serious loss is sustained by reason of bruises and injury and breakage, due to the jolts, shocks, and jars encountered by the car during the haulage thereof. It is among the special purposes of my invention to avoid this loss and injury to the freight during transportation, and I accomplish the desired object by a construction of car wherein the floor is yieldingly supported and is efficiently guided in its vertical movements. I also make provision for yielding end walls of the compartment or car, whereby the freight being transported is relieved as much as possible from shock or jar.

Referring to the accompanying drawings, reference-sign A designates the sills of the car-body, said sills extending longitudinally of the car-body and suitably supported in the usual or any ordinary manner.

B designates transverse tie-beams suitably spaced apart and extending transversely across and resting upon the series of sills A.

C designates the floor of the car. Said floor is arranged to rest upon angle beams or plates D, arranged above and extending parallel with respect to the sills A. The angle-beams D are supported upon coiled springs E, said springs resting upon the sills A and between adjacent transverse tie-beams B. The springs E are coiled springs, with the coils of increasing diameter from the ends, which rest upon the sills A upwardly toward the ends, which receive and support the angle-beam D. By reason of this construction any compression of the spring due to the weight of the load imposed upon the floor will telescope the various windings of the coil into or over each other, and hence enabling the springs to be completely collapsed into spiral convolutions when completely compressed. If desired, the springs E may be retained in place on the sills A by means of caps F, (see Figs. 3 and 4,) said caps being inverted and resting upon the sills A and having projections extending up within the coiled springs, as clearly shown. In

practice the transverse tie-beams B are of sufficient height to receive and form a support for the floor before the springs E are completely collapsed or compressed into flat spiral convolute form.

G designates upright standards securely bolted by means of bolts H to the floor adjacent to the edges or sides thereof and upon which are mounted the longitudinal slats or bars J, constituting what I shall term the "inner" wall of the car.

K designates upright stanchions or beams, upon which the roof L and upper side portions M of the car are supported and which constitute what I shall term the "outer" wall or side of the car.

N designates brackets or castings set into notches formed in the sides or edges of the floor C. Said castings or brackets are provided with sockets or seats, into which the lower ends of upright standards G are set. The securing bolts or rods H pass through the upright standards G and also pass through the bracket or casting N and the floor C or the flange-supporting plate D, as most clearly shown in Fig. 6, thus rigidly tying the inner wall of the car to the floor. The bracket or casting N is provided with separated arms or extensions O, arranged to straddle the outer stanchions K, as most clearly shown in Fig. 5, and an antifriction-roller P is interposed between the outer stanchion K and the inner upright standard G, the ends of said roller being received in grooves Q in the bracket or casting. The antifriction-rollers P serve to guide the up-and-down movements of the floor and inner wall of the car relatively to the stationary stanchion or beam K and the bearing or arms O against the sides of stanchion K prevents lateral as well as longitudinal movement of the floor relatively to the stanchions K. Suitably bolted to the upright standards G, adjacent to the upper ends thereof, are brackets R, having side arms or extensions S, arranged to straddle the outer beams or stanchions K, said brackets or castings R being provided with grooves Q', similar to the grooves Q of bracket or casting N, in which are received the ends of antifriction-rollers P', said rollers being interposed between the upright standards G and the stationary outer stanchions K. The extensions or arms S of bracket R are vertically slotted, as indicated in full lines at A', Fig. 7, and in dotted lines in Fig. 8, and a bolt B', extending transversely through the standard or stanchion K, works in said slots, thereby forming a guide for the brackets R in the vertical movements thereof and also serving to prevent lateral or longitudinal movement of the floor, while permitting the free up-and-down movement thereof.

From the foregoing description it will be seen that I provide an exceedingly simple and efficient construction wherein the floor and inner side walls of the car are yieldingly supported and freely movable vertically to

take up and dissipate any shock or jar or jolt to which the car may be subjected in transportation, and hence relieving the contents of the car from danger of bruising or injury or breakage.

In order to still further insure against damage or injury to the contents of the car, I provide movable end walls or partitions C'. These end walls or partitions are suitably hinged or otherwise pivoted at their lower ends to the floor, and springs D' are interposed between the upper ends of said ends or partitions and suitable or convenient upright standards or stanchions E'. In practice I prefer to slightly incline the end stanchions E' outwardly or away from the ends of the car, and the springs D' operate to maintain the end walls or partitions C' in substantially vertical position, but permitting yielding movement thereof in case the freight, animal, or the like being transported should be jolted or jarred against the end wall, thereby avoiding any injury or bruising of the freight.

A construction of car embodying the principles of my invention as above set forth is particularly advantageous in the case of cattle or stock cars, although a car embodying the invention may with equal advantage be employed for transporting glass or crockery ware or other class or character of freight liable to be injured during the railway haulage thereof. I do not desire, therefore, to be limited or restricted to the use of my invention for the character of freight handled therewith.

From the foregoing description it will be observed that I provide a car wherein the floor is permitted perfect freedom of up-and-down or vertical movement, but is prevented from lateral or longitudinal motion. It will also be seen that the inside or inner wall is rigidly connected to move with the floor and that the end walls or partitions are yieldingly mounted. It will also be seen that the transverse tie-beams form a rigid seat upon which the floor rests when the springs are fully compressed and that said transverse tie-beams form braces serving to stiffen and prevent lateral vibration of the frame-sills. It is obvious that the end walls may be hinged or pivotally connected at the top instead of the bottom, if desired.

The other parts of the car not specifically hereinabove referred to may be of the usual or any well-known construction and arrangement well understood by persons skilled in the art and need not be herein described or referred to.

Many variations and changes in the details of construction and arrangement would readily suggest themselves to persons skilled in the art and still fall within the spirit and scope of my invention. I do not desire, therefore, to be limited or restricted to the exact details of construction and arrangement shown and described; but,

Having now set forth the object and na-

ture of my invention and a construction embodying the principles thereof, what I claim as new and useful and of my own invention, and desire to secure by Letters Patent, is—

5 1. The combination in a car, of a car-body, sills extending longitudinally of the car-body, a series of springs supported upon each sill, a floor resting upon said springs, and side walls carried by said floor, as and for the purpose
10 set forth.

2. The combination in a car, of a car-body, sills extending longitudinally of the car-body, a series of springs supported upon each sill transverse to the rods connecting said sills,
15 and a floor supported upon said springs, as and for the purpose set forth.

3. The combination in a car, of a car-body, sills extending longitudinally of the car-body, a series of springs supported upon each sill, a
20 floor resting upon said springs whereby said floor is yieldingly supported, side walls carried by said floor, and means for guiding said floor in its yielding up-and-down movements, as and for the purpose set forth.

4. The combination in a car, of a car-body, sills extending longitudinally of the car-body, a series of springs supported upon each sill, a floor resting upon said springs whereby said
25 floor is yieldingly supported, and means for preventing lateral and longitudinal movement of said floor during the up-and-down yielding movements thereof, as and for the purpose set forth.

5. The combination in a car, of a floor, upright standards rigidly secured to said floor, side walls carried by said standards, stationary
35 stanchions, brackets connected to move with said floor and standards and arranged to embrace said stanchions, supporting-sills, and springs interposed between said sills and floor for yieldingly supporting the latter, as
40 and for the purpose set forth.

6. The combination in a car, of a floor, upright standards connected to said floor to move
45 therewith and carrying the side walls of the car, brackets or castings secured to said standards, upright stanchions arranged to be engaged by said brackets or castings, antifriction devices interposed between said stan-
50 chions and standards, supporting-sills and springs interposed between said sills and floor to yieldingly support the latter, as and for the purpose set forth.

7. The combination in a car, of a car-body, sills arranged to extend longitudinally with
55 respect to the car-body, a series of springs supported upon each of said sills, beams sup-

ported upon said springs, and a floor arranged to rest upon said beams whereby said floor is yieldingly supported, as and for the purpose
60 set forth.

8. The combination in a car, of sills arranged to extend in parallel relation longitudinally with respect to the car-body, a series of col-
65 lapsible springs mounted upon each sill, a beam extending parallel with each sill and arranged to rest upon the springs supported by said sill, and a floor supported upon said beams, as and for the purpose set forth.

9. The combination in a car, of sills arranged
70 in parallel relation and extending longitudinally, with respect to the car-body, tie-bars arranged to extend transversely of said beams and connecting the same, springs resting upon said sills at points between said tie-bars, and
75 a floor arranged to be yieldingly supported by said springs, said tie-bars operating to receive and support the floor when said springs are in complete compression, as and for the purpose set forth.
80

10. The combination in a car, of a car-body, supporting-sills, a floor, springs supported upon said sills and interposed between said
85 sills and floor to yieldingly support the latter, and tie-bars supported upon said sills and also interposed between said floor and sills and operating to receive and support the floor when said springs approach complete compression, as and for the purpose set forth.

11. The combination in a car, of support-
90 ing-sills, a series of springs mounted upon each sill, a floor supported upon said springs, side walls rigidly connected to move vertically with the yielding movements of said floor, and end walls pivotally connected to
95 said floor, as and for the purpose set forth.

12. The combination in a car, of a car-body, supporting-sills therefor, a series of springs supported upon each of said sills, a floor sup-
100 ported upon said springs whereby said floor is yieldingly mounted, side walls rigidly connected to said floor to move therewith in its up-and-down yielding movements, end walls pivotally connected to the floor and moving
105 therewith, and springs interposed between said end walls and the end walls of the car-body, as and for the purpose set forth.

In witness whereof I have hereunto set my hand, this 11th day of July, 1901, in the presence of the subscribing witnesses.

ANDREW J. ADAMSON.

Witnesses:

CHAS. H. SEEM,

S. E. DARBY.