

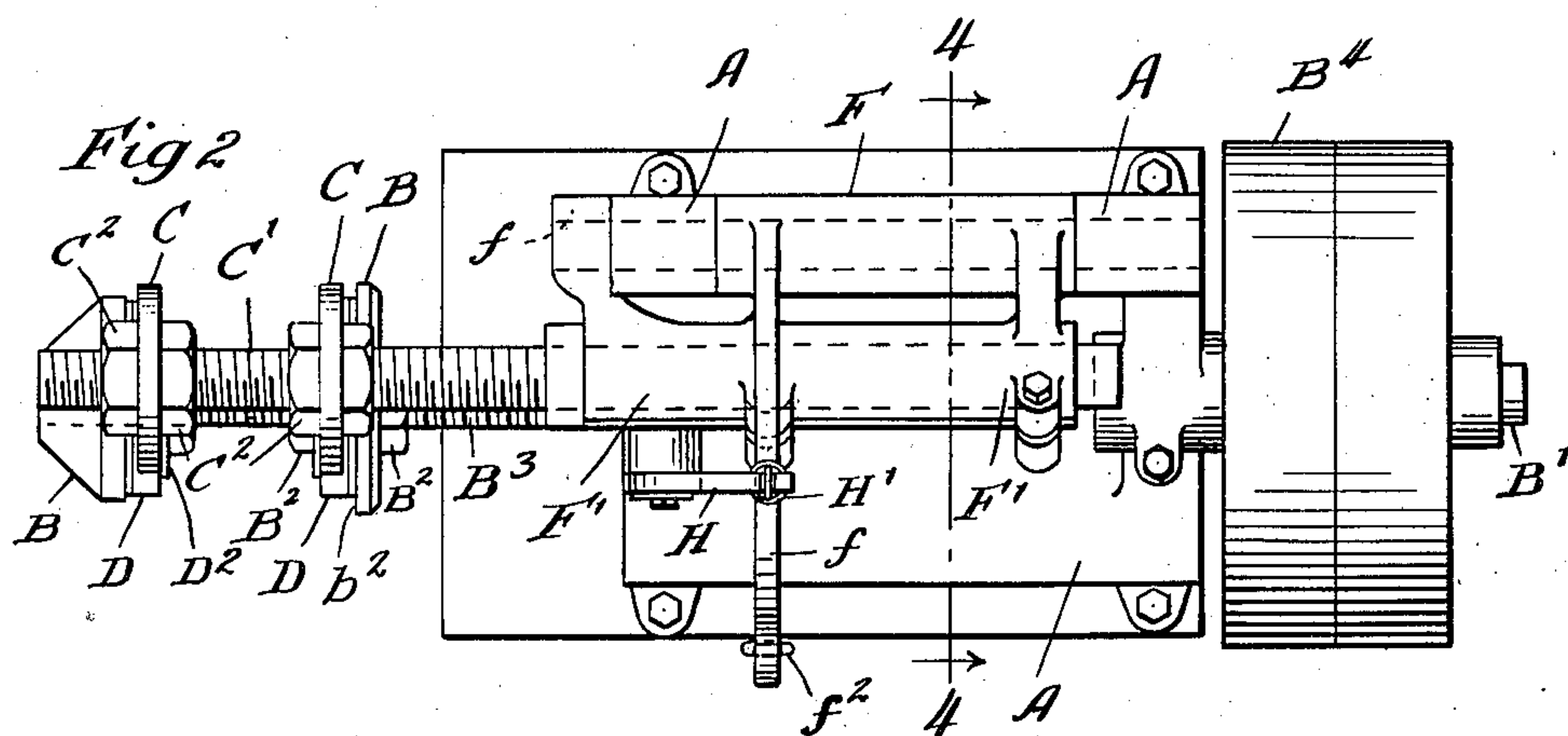
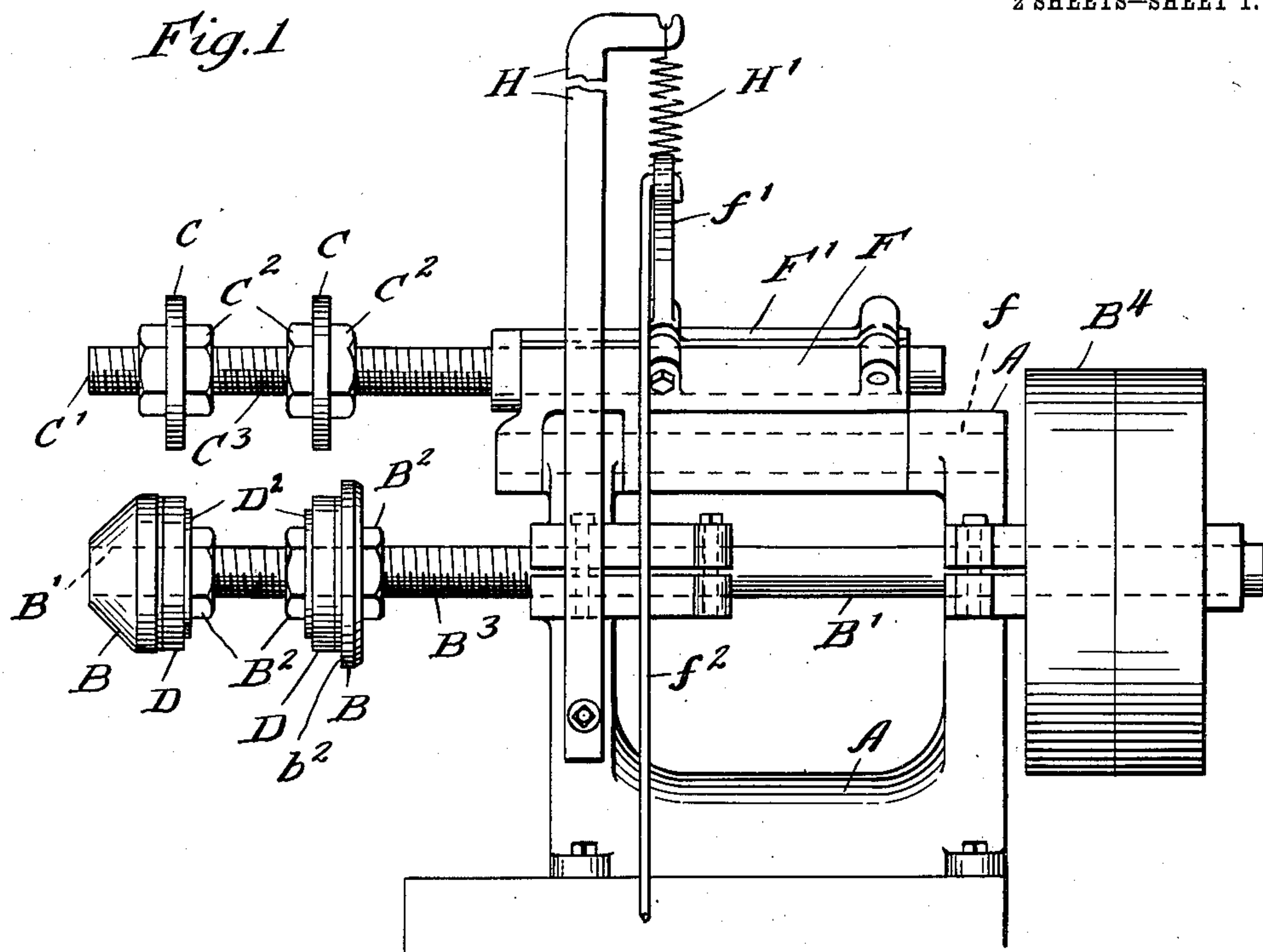
No. 877,257.

PATENTED JAN. 21, 1908.

S. TEVANDER.
CAN BODY FLANGING MACHINE.

APPLICATION FILED NOV. 23, 1906.

2 SHEETS—SHEET 1.



Witnesses:

Wm. Geiger
H. W. Munday,

Inventor:
Swan Tevander

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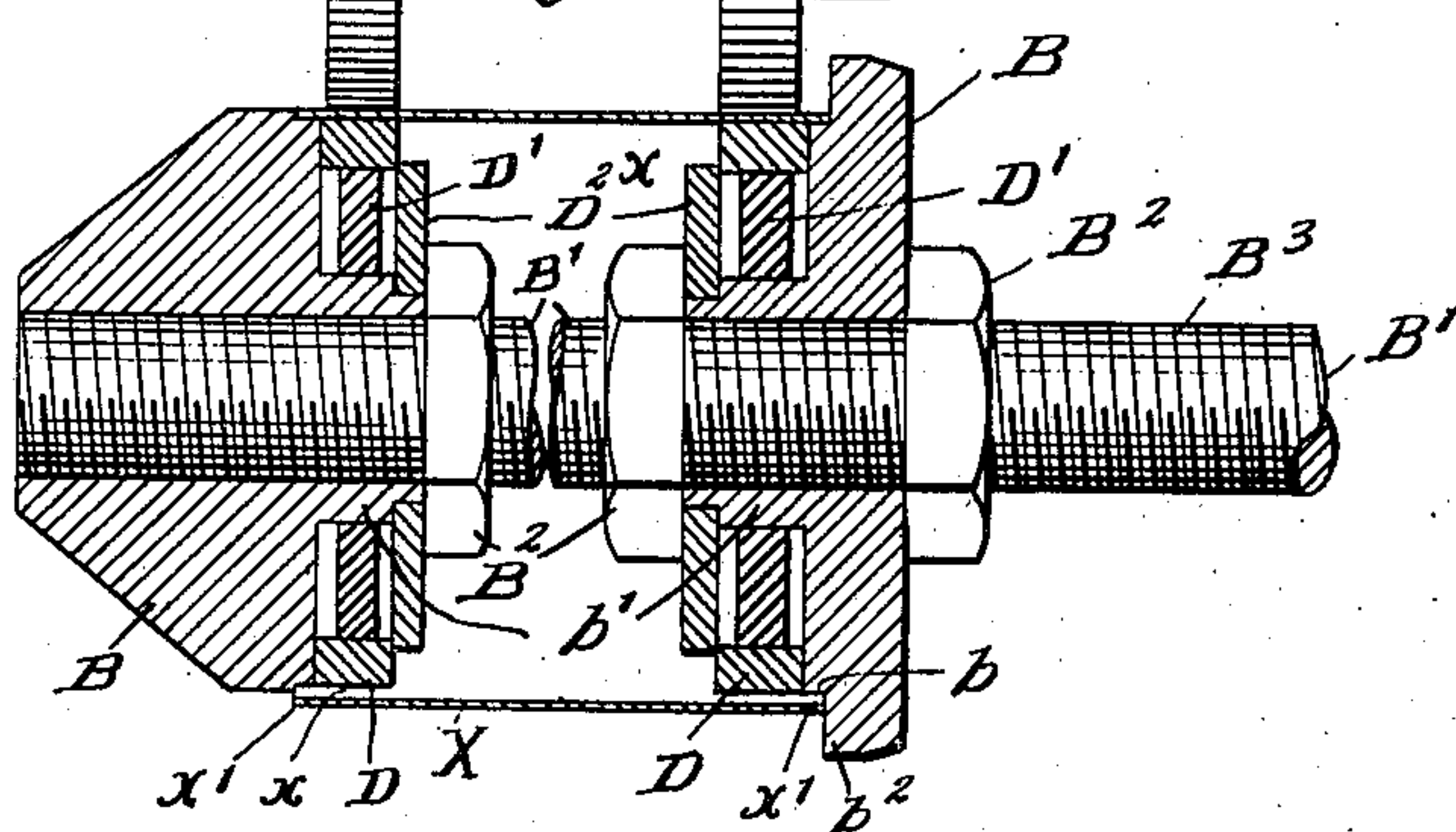
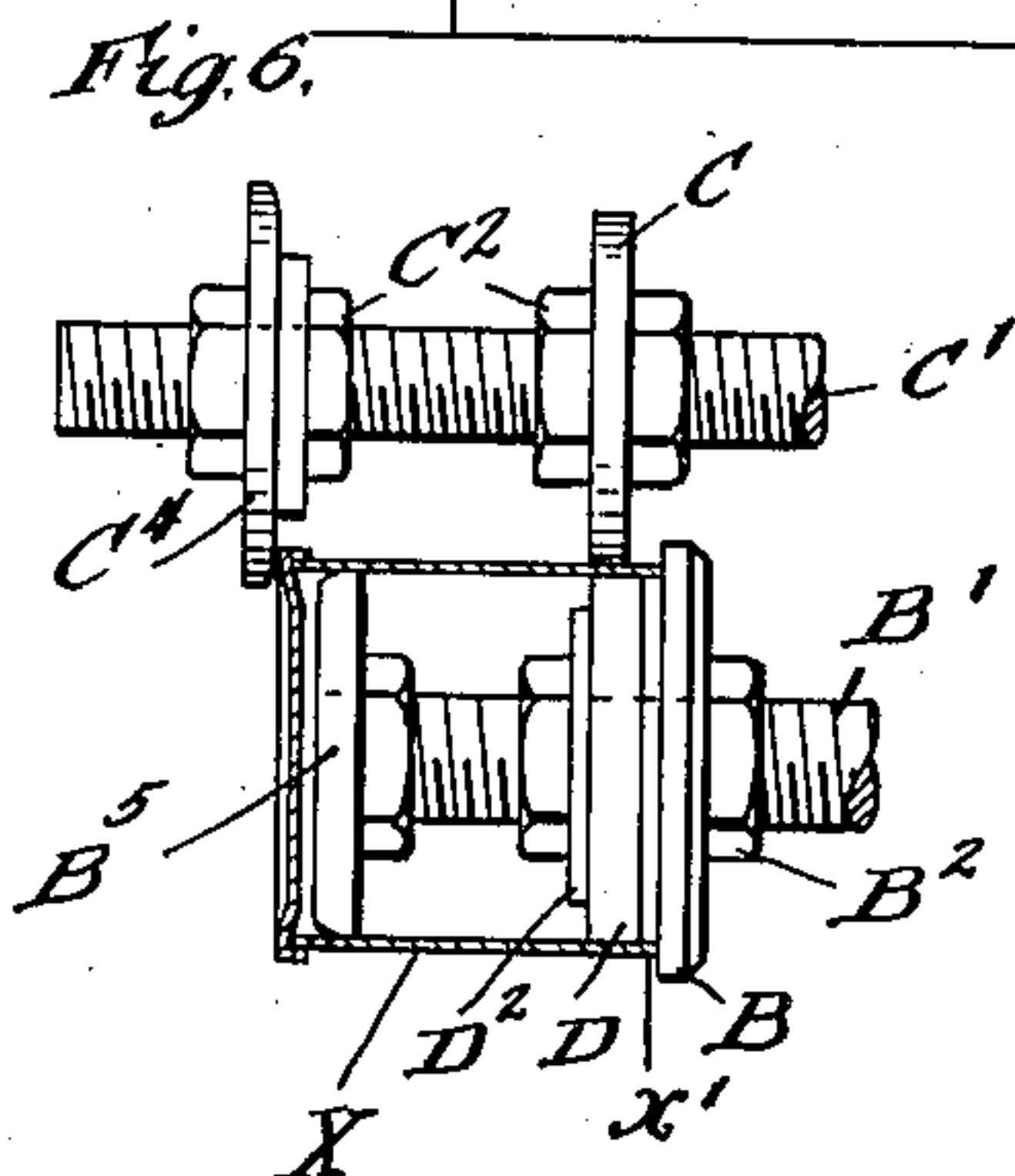
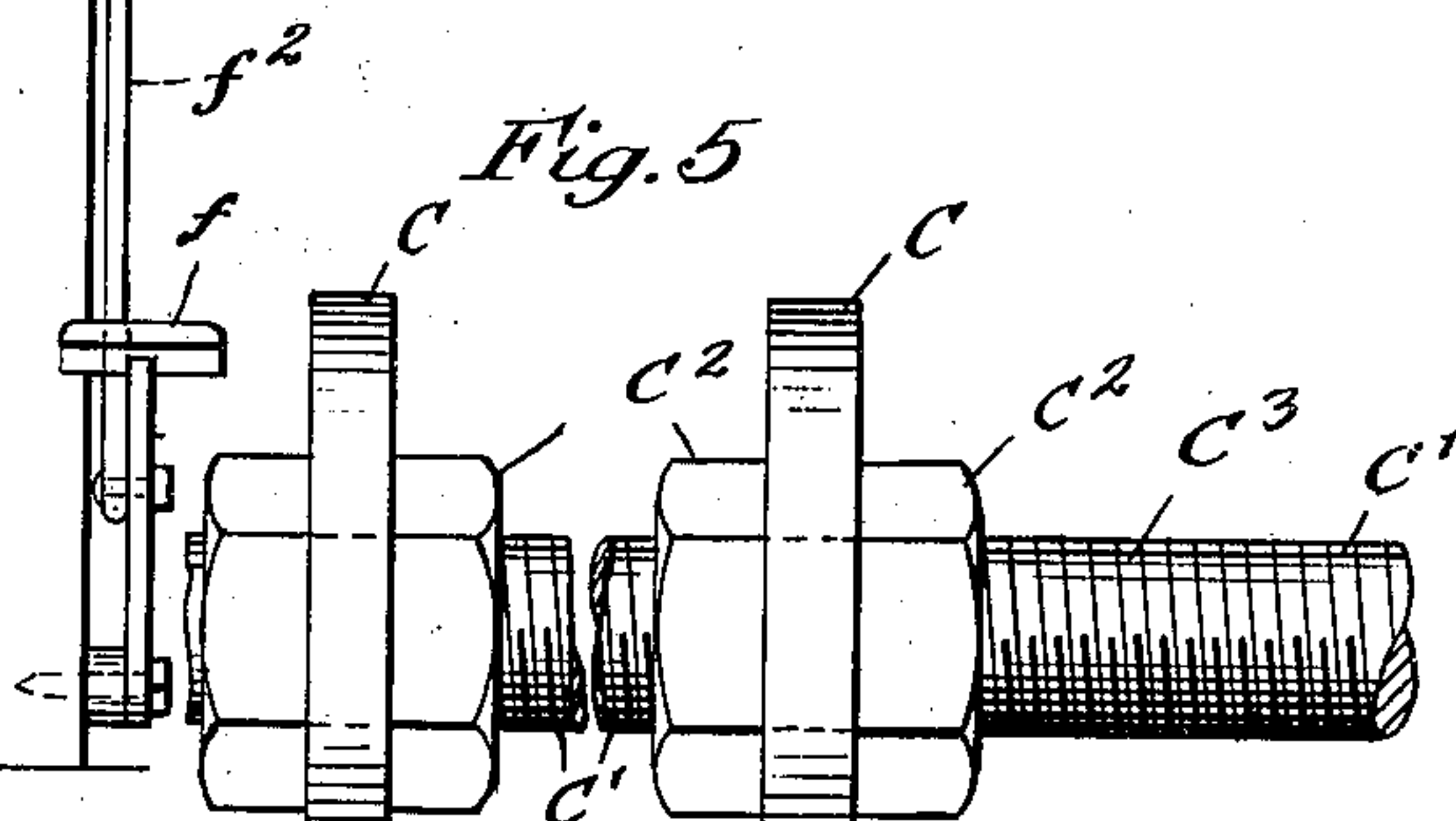
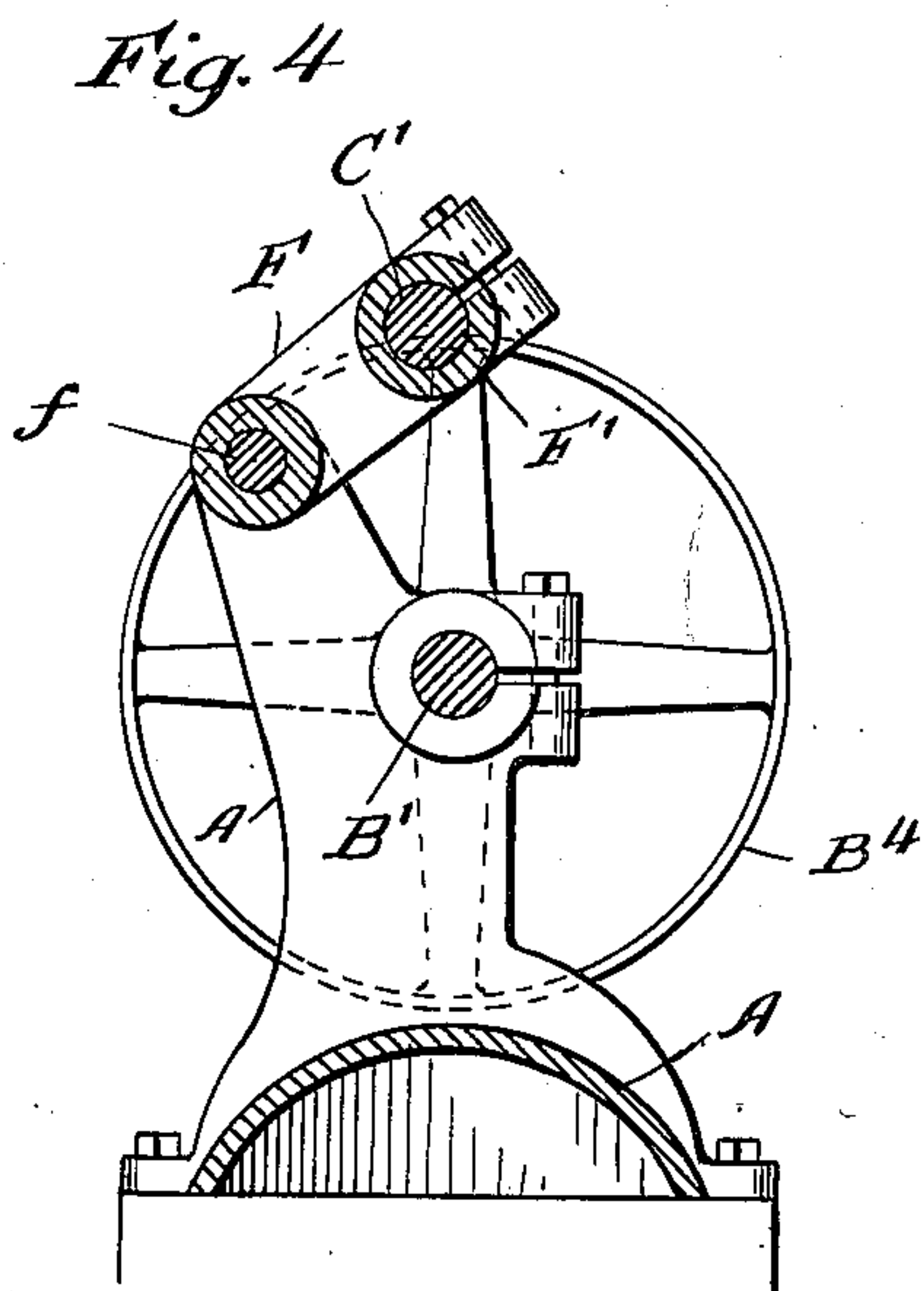
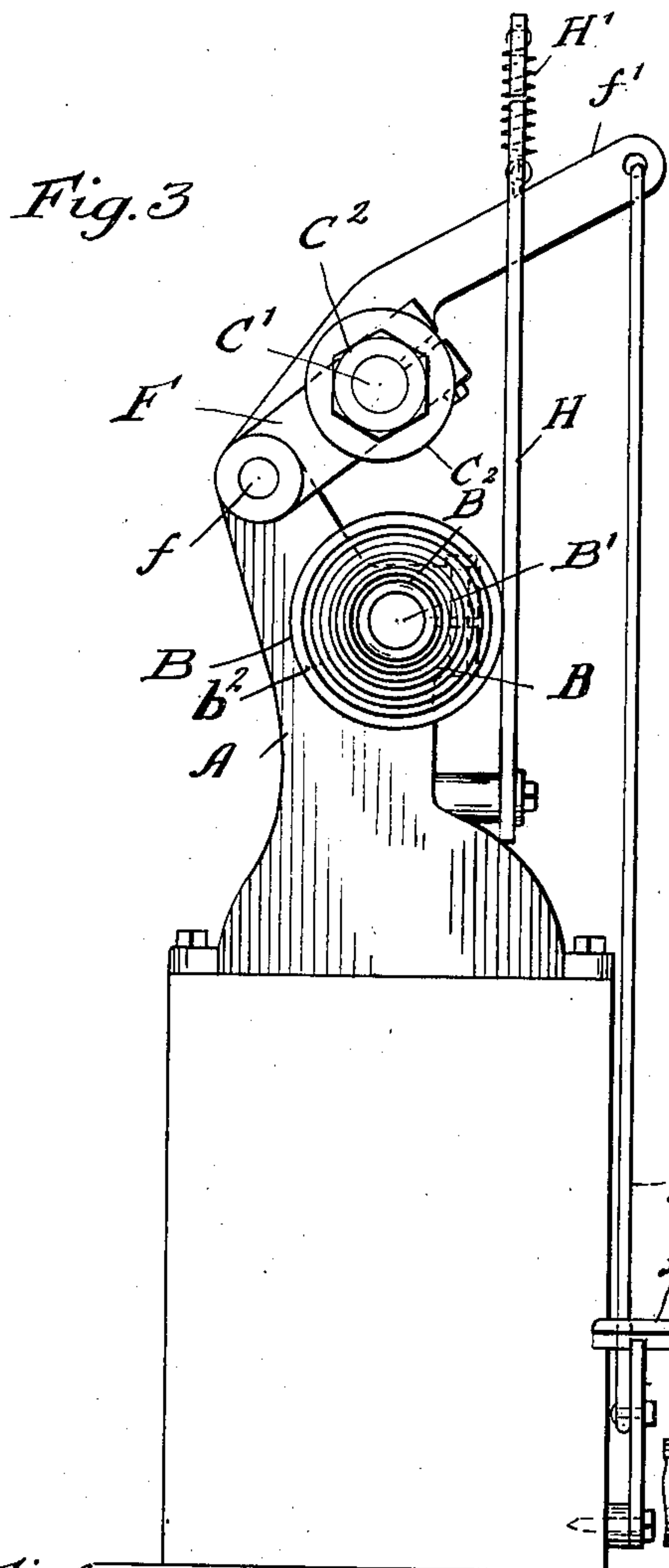
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A. W. Munday

Inventor:

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UNITED STATES PATENT OFFICE.

SWAN TEVANDER, OF MAYWOOD, ILLINOIS, ASSIGNOR TO AMERICAN CAN COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

CAN-BODY-FLANGING MACHINE.

No. 877,257.

Specification of Letters Patent.

Patented Jan. 21, 1908.

Application filed November 23, 1906. Serial No. 344,697.

To all whom it may concern:

Be it known that I, SWAN TEVANDER, a citizen of the United States, residing in Maywood, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Can-Body-Flanging Machines, of which the following is a specification.

My invention relates to improvements in flanging machines for flanging the bodies of cans or other vessels preparatory to seaming.

The object of my invention is to provide a can body flanging machine of a simple, strong, efficient and durable construction by means of which the bodies of sheet metal cans or other vessels may be rapidly and cheaply flanged, and by means of which the can bodies may be provided with uniform, true and perfect flanges, so that hermetically tight and perfect double seams may be formed by and between the seaming flange of the can body and of the can cover.

My invention consists in the means I employ to practically accomplish this object or result. That is to say, it consists in connection with a rotatable flanging tool or roller, of a rotary flanging head or chuck adapted to receive thereon the open or mouth end of the can body, and a yielding or cushioned supporting ring mounted on the rotary flanging head and adapted to fit inside the can body and support the same in true circular form against the thrust of the flanging tool or roller while permitting the can body to yield or move with the flanging roller in respect to the flanging head as required in carrying out the flanging operation. My invention also consists in the novel construction of parts and devices, and in the novel combinations of parts and devices herein shown and described.

In the accompanying drawing forming a part of this specification, Figure 1 is a side elevation of a can body flanging machine embodying my invention, and Fig. 2 is a plan view. Fig. 3 is an end elevation. Fig. 4 is a detail vertical section on line 4—4 of Fig. 2; Fig. 5 is a detail central section through the flanging head showing the yielding or movable can body supporting rings or chucks; and Fig. 6 illustrates a modification in which only one flanging head and only one flanging tool or roller is employed.

In the drawing, A represents the frame of the machine, B is a rotary flanging head having a flanging shoulder *b* adapted to fit inside

the mouth *x* of the body X of the can or vessel about to be flanged and cooperate with the rotatable flanging tool or roller C in turning the flange *x*¹ upon the open or mouth end of the can body as the flanging tool or roller C is moved radially toward the rotating can body on the flanging head B.

In order to cause the flange to be truly, uniformly and perfectly formed on the can body, I provide the rotary flanging head B with a cushioned movable or yielding supporting ring or chuck D which fits inside the body of the can or vessel and supports it in true circular shape during the flanging operation. The supporting ring or chuck D is furnished with a cushion or spring D¹, preferably of rubber, and surrounding the hub *b*¹ on the flanging head B which cushions the ring or gives it a spring support and enables it to yield against the thrust of the flanging tool or roller C and move therewith as this tool or roller moves toward the flanging head B. The rotary flanging head B is also provided with a guide ring or disk D² to keep the cushion chuck ring D in place and guide its movement. The rotary flanging head B has a flange or shoulder *b*² to serve as a stop for the end of the can body to abut against and limit the width of the flange to be formed on the can body. The rotary flanging head B is preferably adjustably connected to its rotating shaft B¹ by jam-nuts B² B² which engage screw threads B³ on the overhanging end of the shaft B¹. The flanging head B is continuously rotated by a pulley B⁴ on its shaft through a suitable belt.

The flanging tool or roller C is preferably adjustably connected to its rotatable supporting shaft C¹ by means of jam-nuts C² C² which engage screw threads C³ on the shaft C¹. The rotatable shaft C¹ is journaled in suitable bearings F¹ on a rocking or swinging frame F pivotally connected to the main frame at *f* and having an operating arm *f*¹ connected by a link *f*² with a foot treadle *f*³ by which the rocking frame is depressed to move the flanging tool or roller C against the can body on the rotating flanging head B. A link H and spring H¹ serve to lift or return the swinging frame F to its upper or normal position.

To adapt the machine to simultaneously flange both ends of the can body X, the shaft B¹ is provided with two flanging heads B adapted to be adjusted apart according to the

length of the can body X by the screw threads B³ on the shaft B¹, and the shaft C¹ is provided with two flanging tools or rollers C adapted to be similarly adjusted apart according to the length of the can body. Each of the flanging heads B, it will of course be understood, has a supporting ring or chuck D and a cushion or spring D¹, and guide ring or disk D².

10 In cases where it is only desired to flange one end of the can body, only one flanging head B is employed on the shaft B¹, and only one flanging tool or roller C on the shaft C¹, as shown in the modification illustrated in Fig. 6. In this modification, the flanging roller shaft C¹ is provided with a disk C⁴ overlapping the can to hold it in place on the flanging head B and supporting ring D, and the shaft B¹ is provided with a supporting disk B⁵ which fits inside the can to support its outer end.

I claim:—

1. In a flanging machine, the combination with a flanging head, of a flanging tool or roller movable to and from the flanging head and a movable cushion chuck ring on the flanging head fitting inside the body of the vessel to be flanged to support the vessel in true shape during the flanging operation against the thrust of the flanging tool or roller, a flanging head shaft and a supporting device for the outer end of the can on the outer end of said flanging head shaft, substantially as specified.

35 2. In a flanging machine, the combination with a rotary flanging head, and a rotatable flanging tool or roller movable to and from the flanging head, and an opposing spring supported or cushioned supporting ring or chuck for the can body mounted movably on the flanging head and adapted to fit inside the mouth of the vessel to be flanged and oppose the thrust of the flanging tool or roller, a flanging head shaft and a supporting device for the outer end of the can on the outer end of said flanging head shaft, substantially as specified.

3. The combination with a flanging tool or roller, of a flanging head and a movable supporting ring on the flanging head and fitting inside the mouth of the vessel to be flanged to support the same in true shape, a flanging head shaft and a supporting device for the outer end of the can on the outer end of said flanging head shaft, substantially as specified.

4. In a flanging machine, the combination with a flanging tool or roller, of a flanging head, a movable supporting ring, and a guide for said ring on the flanging head, a flanging head shaft and a supporting device for the outer end of the can on the outer end of said flanging head shaft, substantially as specified.

65 5. In a flanging machine, the combination

with a flanging tool or roller, of a flanging head, a movable supporting ring, a guide for said ring on the flanging head and a spring inside said ring, a flanging head shaft and a supporting device for the outer end of the can on the outer end of said flanging head shaft, substantially as specified.

6. In a flanging machine, the combination with a flanging tool or roller, of a flanging head, a movable supporting ring, and a guide for said ring on the flanging head, and a rubber spring or cushion inside said ring, a flanging head shaft and a supporting device for the outer end of the can on the outer end of said flanging head shaft, substantially as specified.

7. In a flanging machine, the combination with a flanging tool or roller, of a flanging head, a movable supporting ring, a guide for said ring on the flanging head, and a rubber spring or cushion inside said ring, said flanging head having a hub around which said rubber cushion fits, a flanging head shaft and a supporting device for the outer end of the can on the outer end of said flanging head shaft, substantially as specified.

8. In a flanging machine for simultaneously flanging both ends of a can body, the combination with a pair of flanging heads, of a pair of flanging tools or rollers movable to and from the flanging heads, each of the flanging heads having a movable chuck ring fitting inside the body of the vessel to be flanged, a flanging head shaft, said flanging heads being both on the outer end of said flanging head shaft, so the can bodies may be slipped endwise over the free end of said shaft onto both of said flanging heads, substantially as specified.

9. In a flanging machine for simultaneously flanging both ends of a can body, the combination with a pair of flanging heads, of a pair of flanging tools or rollers movable to and from the flanging heads, each of the flanging heads having a movable chuck ring fitting inside the body of the vessel to be flanged and also a guide for said chuck ring, a flanging head shaft, said flanging heads being both on the outer end of said flanging head shaft, so the can bodies may be slipped endwise over the free end of said shaft onto both of said flanging heads, substantially as specified.

10. In a flanging machine, the combination with a pair of flanging tools or rollers, of a pair of flanging heads and a pair of movable supporting rings on the flanging heads, a flanging head shaft, said flanging heads being both on the outer end of said flanging head shaft, so the can bodies may be slipped endwise over the free end of said shaft onto both of said flanging heads, substantially as specified.

11. In a flanging machine, the combination with a pair of flanging tools or rollers, 130

of a pair of flanging heads and a pair of movable supporting rings on the flanging heads and a pair of guide rings or disks for said supporting rings, a flanging head shaft, said flanging heads being both on the outer end of said flanging head shaft, so the can bodies may be slipped endwise over the free end of said shaft onto both of said flanging heads, substantially as specified.

10 12. In a flanging machine, the combination with a pair of flanging tools or rollers, of a pair of flanging heads and a pair of movable supporting rings on the flanging heads, and a pair of guide rings or disks for said supporting rings, and cushions or springs for said supporting rings, a flanging head shaft, said flanging heads being on both the outer end of said flanging head shaft, so the can bodies may be slipped endwise over the free end of said shaft onto both of said flanging heads, substantially as specified.

15 13. In a flanging machine, the combination with a pair of flanging tools or rollers, of a pair of flanging heads and a pair of movable supporting rings on the flanging heads, and cushions or springs for said supporting rings, a flanging head shaft, said flanging heads being both on the outer end of said flanging head shaft, so the can bodies may be slipped endwise over the free end of said shaft onto both of said flanging heads, substantially as specified.

shaft onto both of said flanging heads, substantially as specified.

14. In a flanging machine, the combination with a pair of flanging tools or rollers, of a pair of flanging heads and a pair of movable supporting rings on the flanging heads, said flanging heads being adjustable to and from each other, a flanging head shaft, said flanging heads being both on the outer end of said flanging head shaft, so the can bodies may be slipped endwise over the free end of said shaft onto both of said flanging heads, substantially as specified.

15. In a flanging machine, the combination with a pair of flanging tools or rollers, of a pair of flanging heads and a pair of movable supporting rings on the flanging heads, said flanging heads being adjustable to and from each other, and said flanging tools or rollers being adjustable to and from each other, a flanging head shaft, said flanging heads being both on the outer end of said flanging head shaft, so the can bodies may be slipped endwise over the free end of said shaft onto both of said flanging heads, substantially as specified.

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Witnesses:

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