

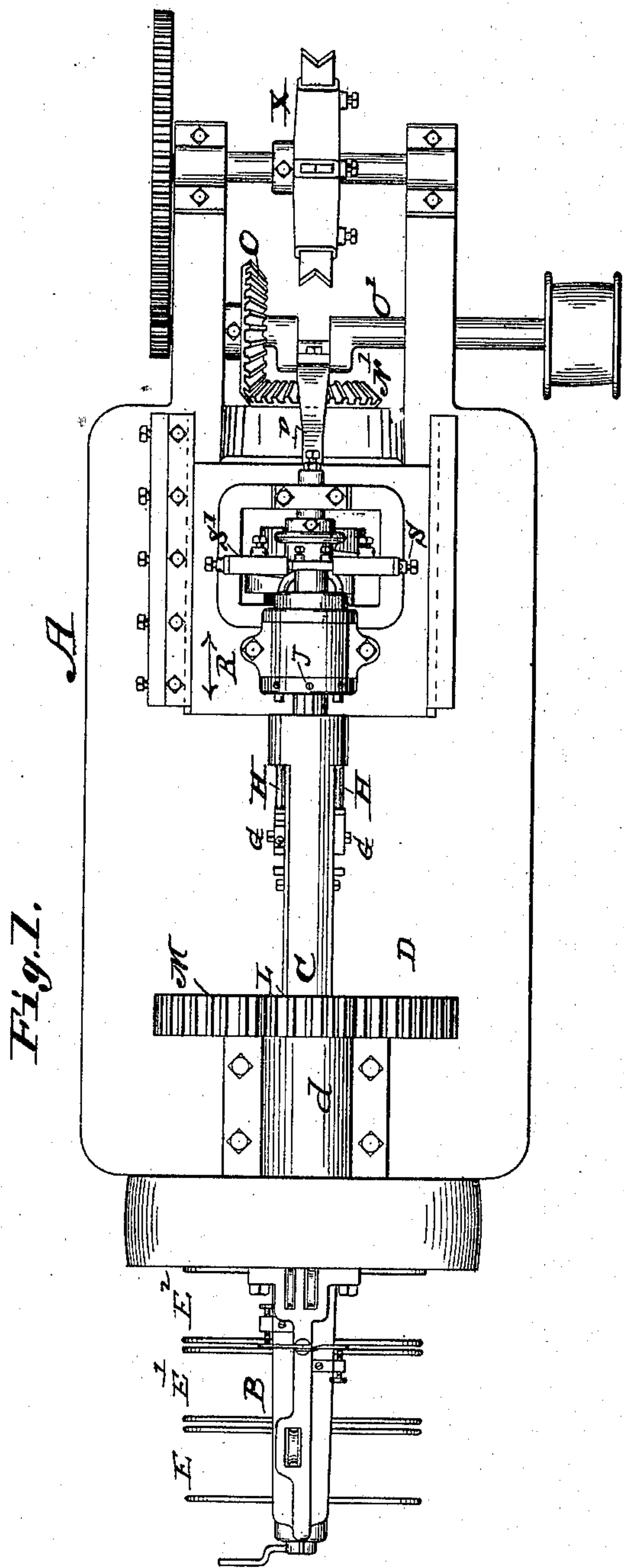
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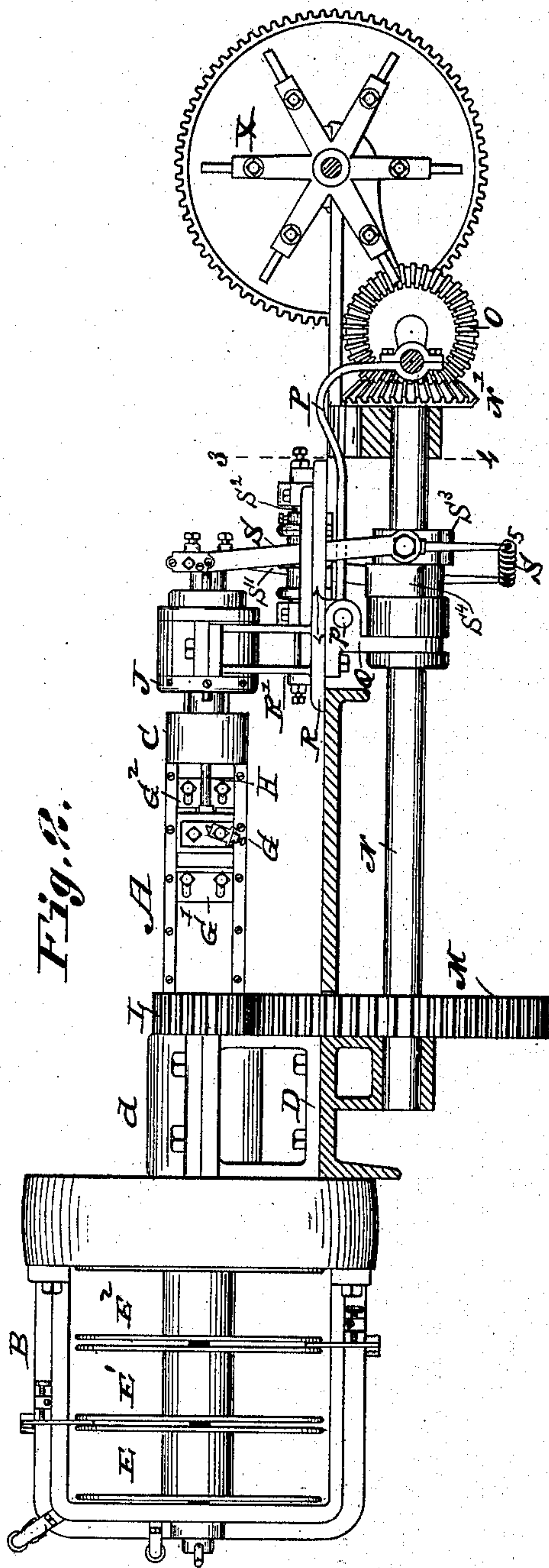
G. H. LASAR.
BARB WIRE MACHINE.

No. 322,112.

Patented July 14, 1885.



Attest:
Cora C. Hunt
Peter White



Inventor:
Godfrey H. Lasar
by C. D. Moody
att'y

(No Model.)

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Fig. 3.

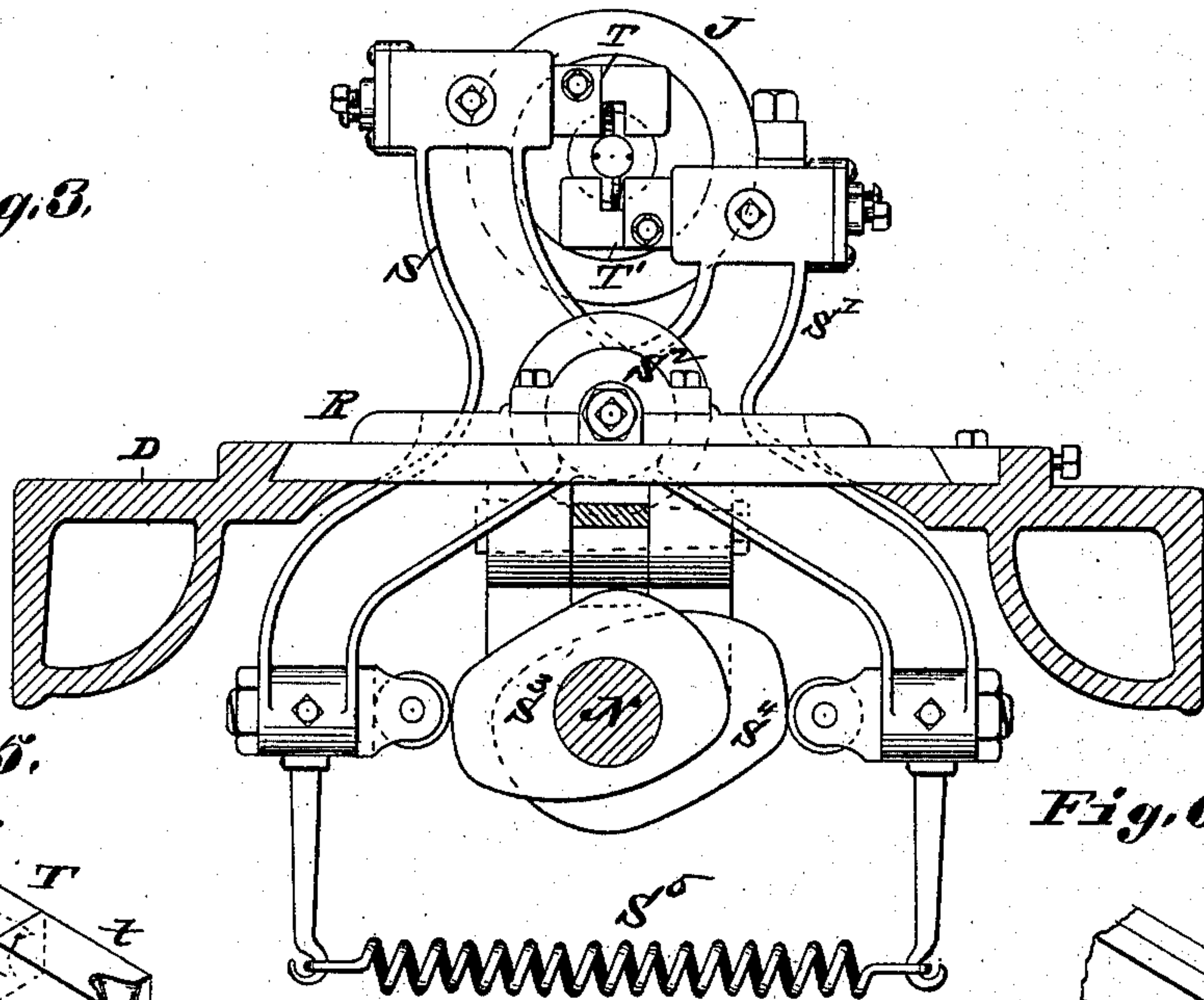


Fig. 5.

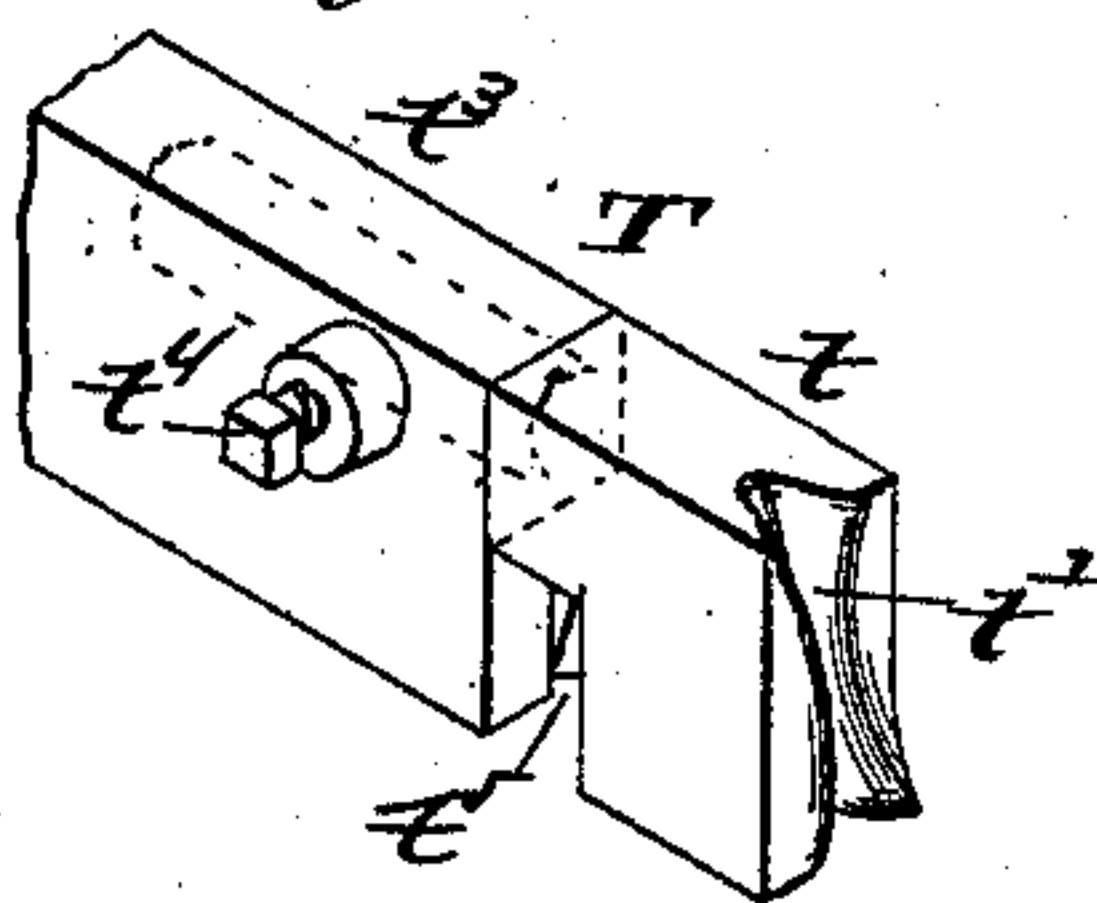


Fig. 6.

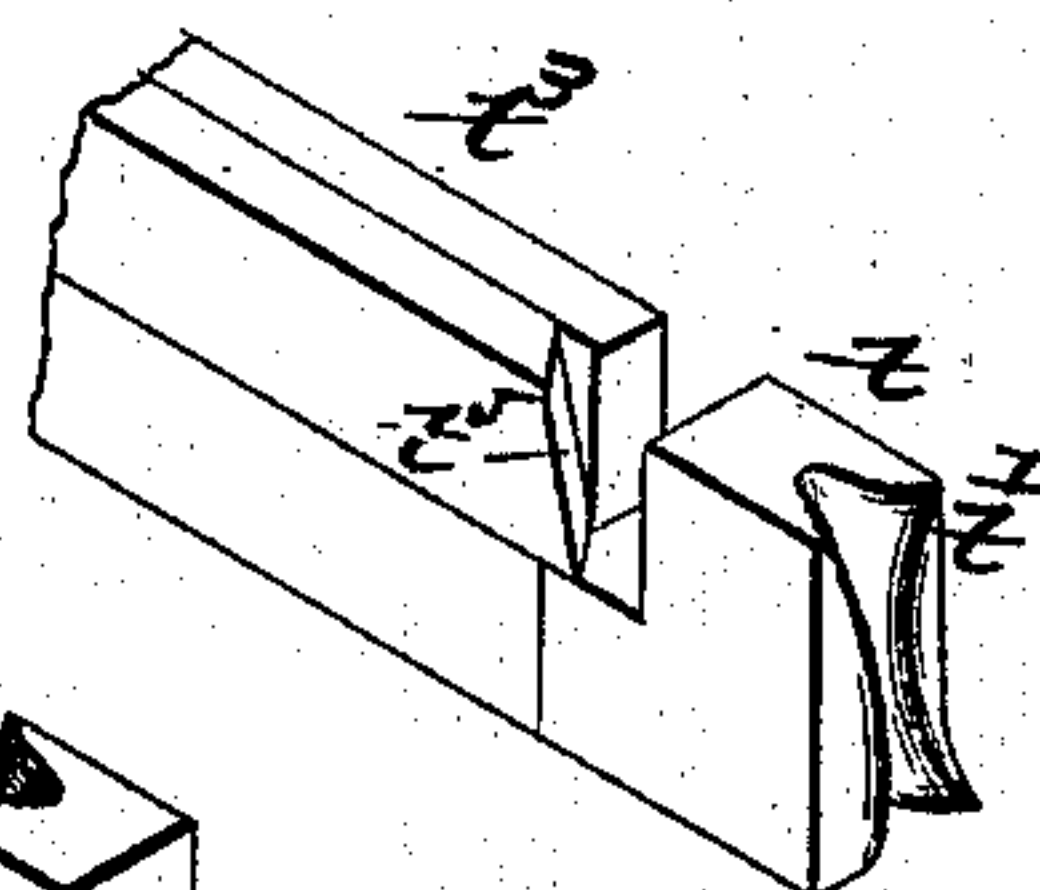


Fig. 4.

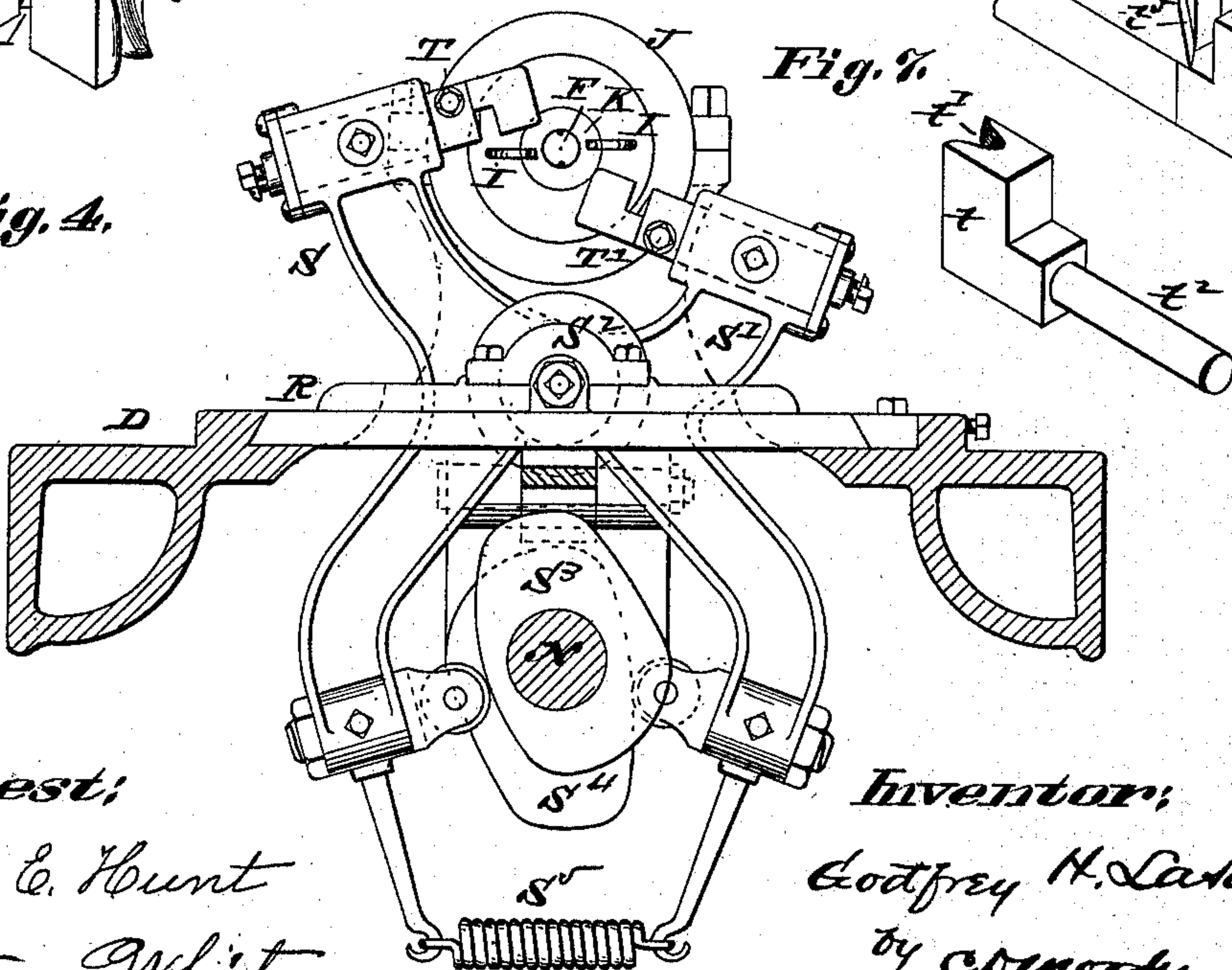
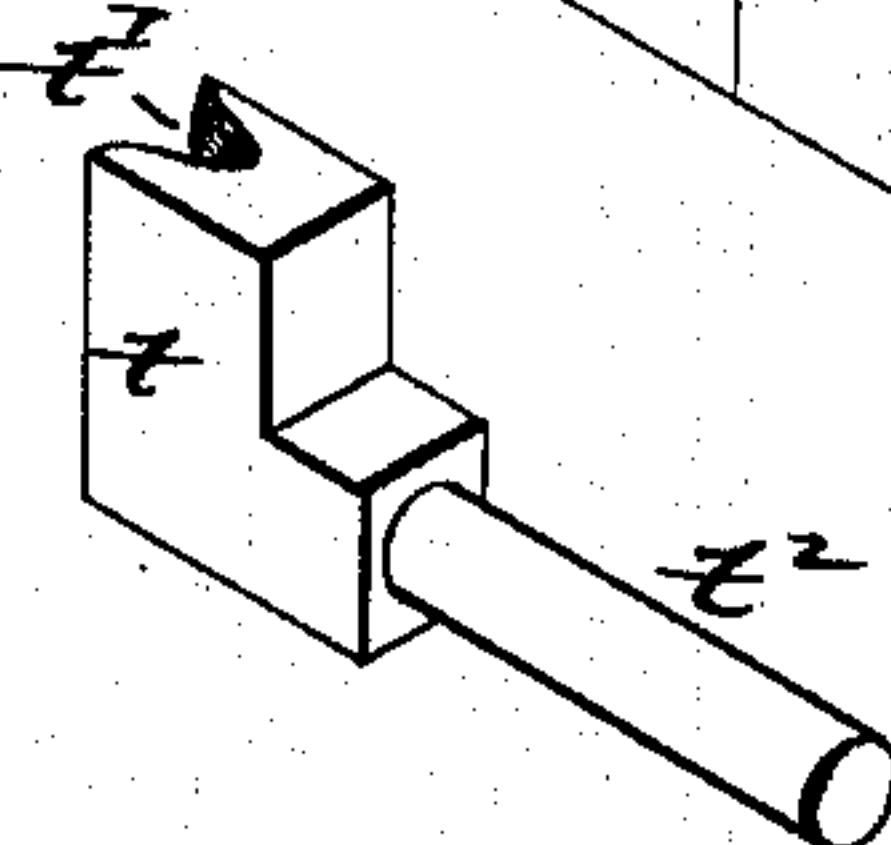


Fig. 7.



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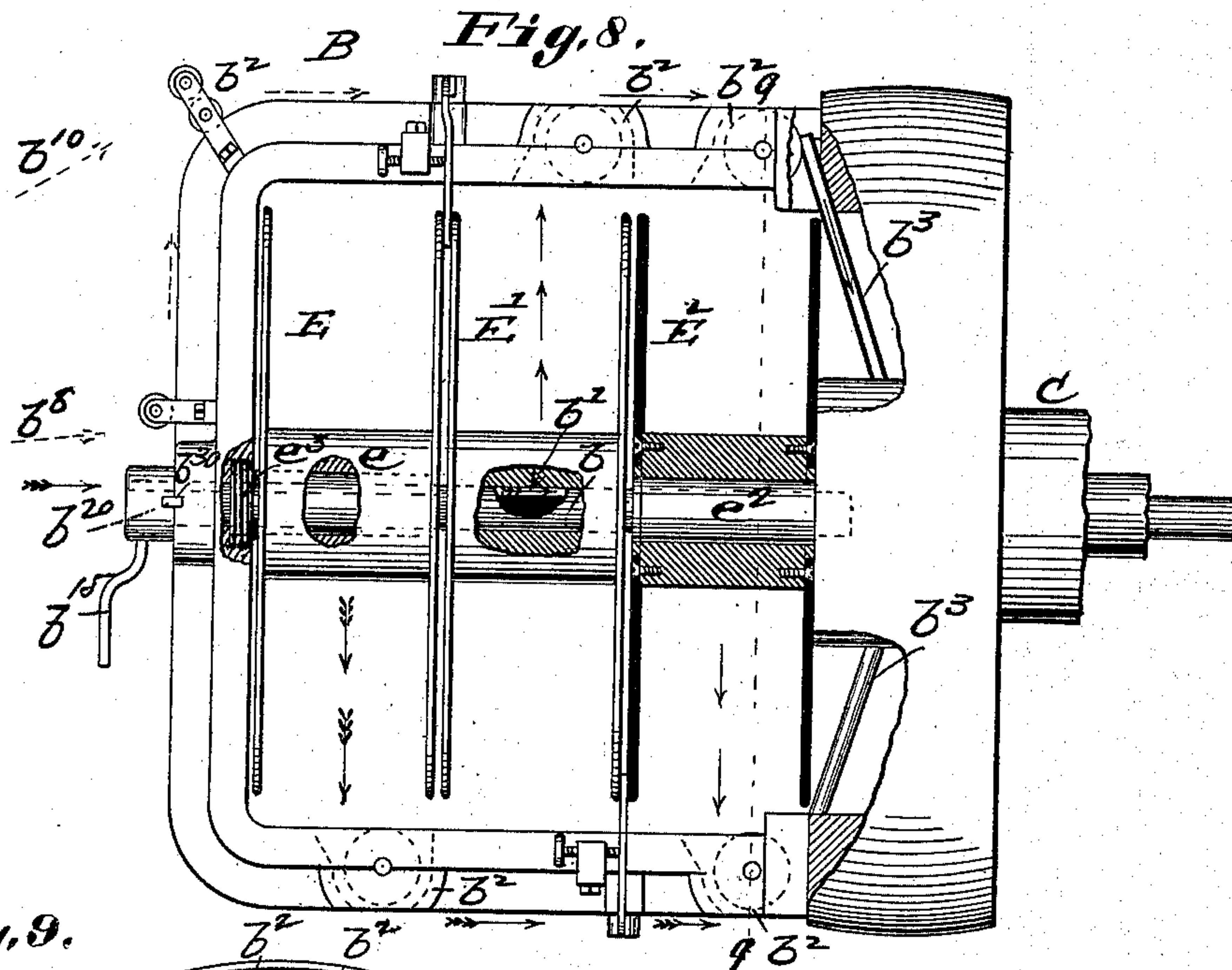


Fig. 9.

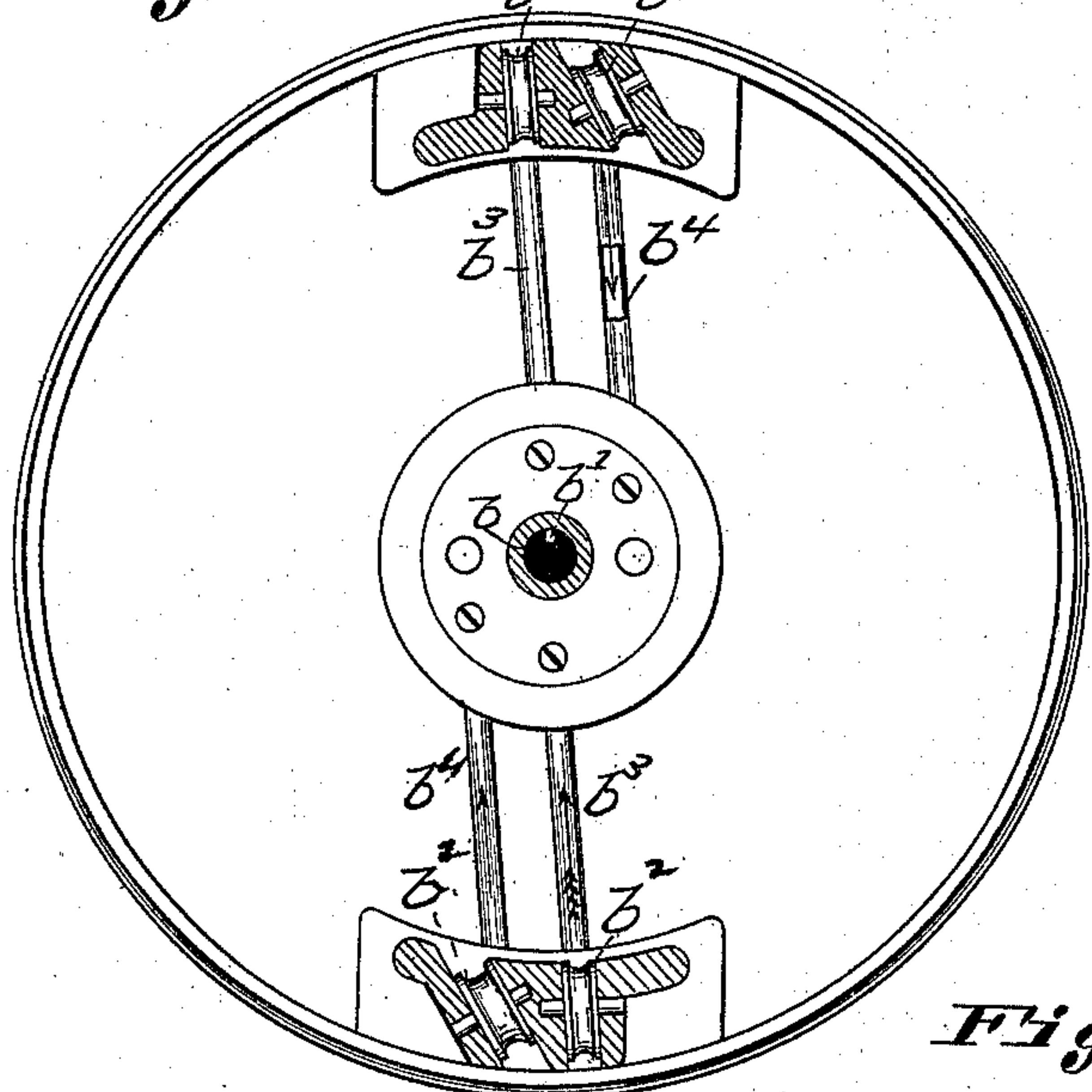


Fig. 10

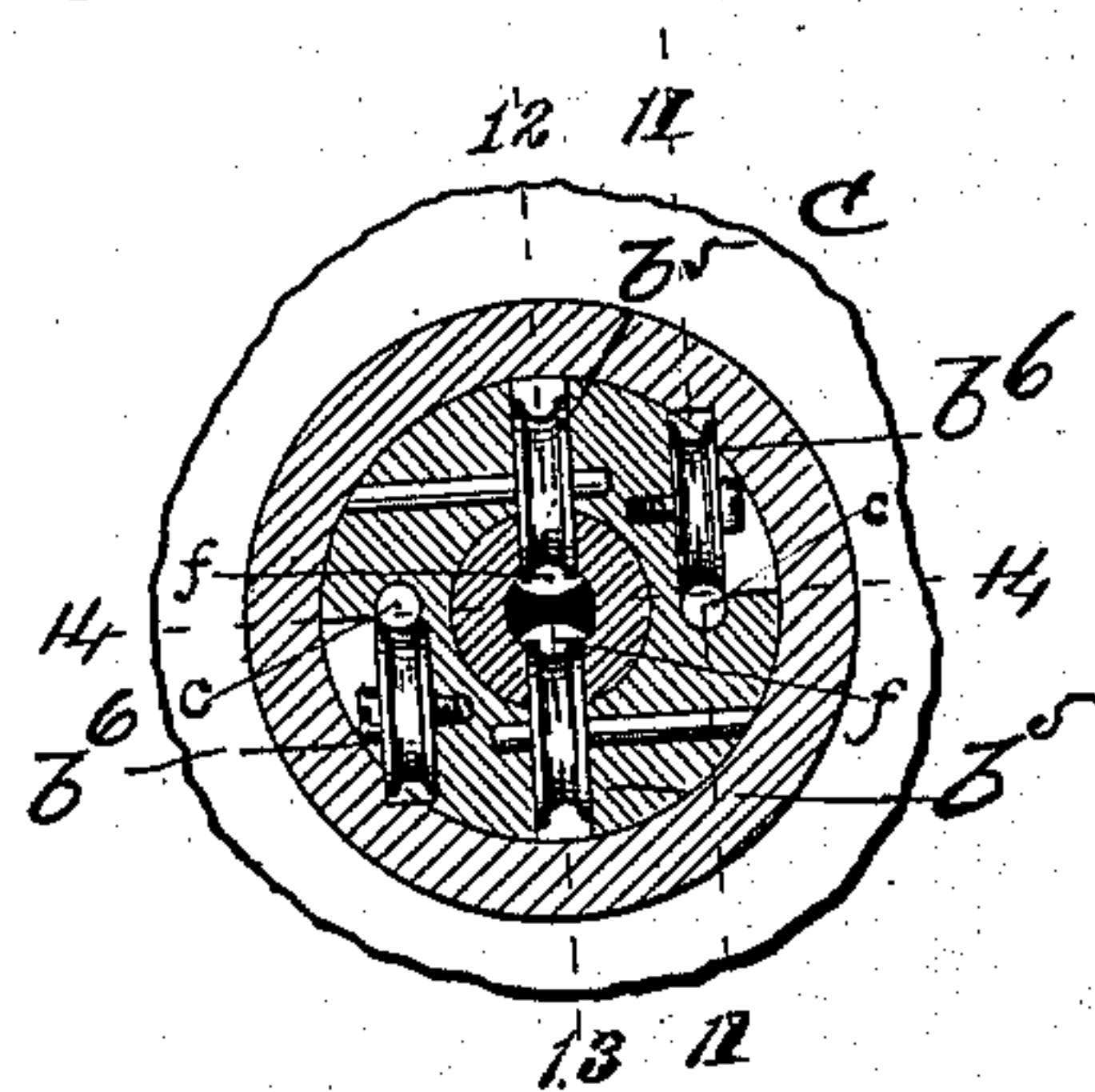
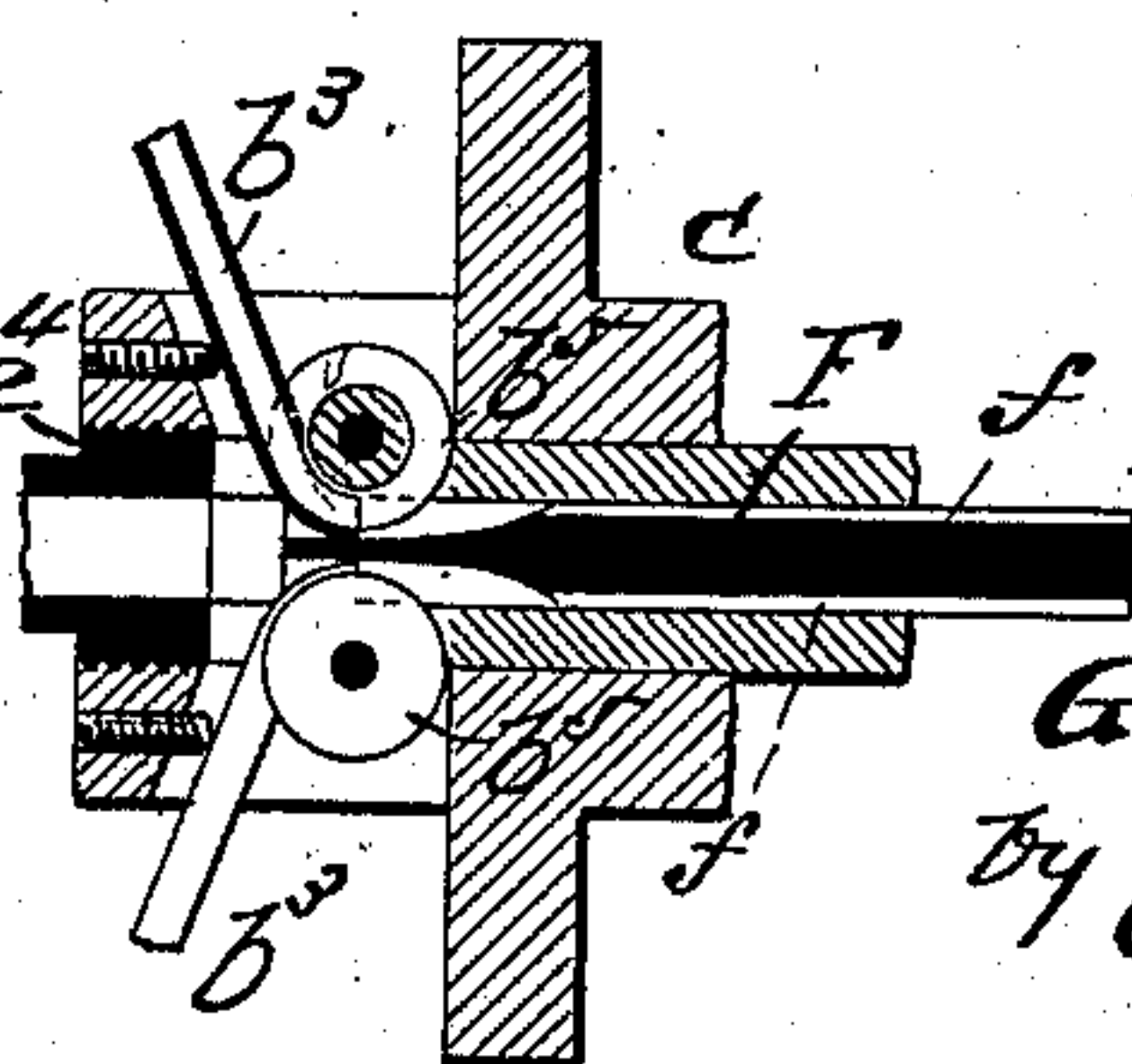
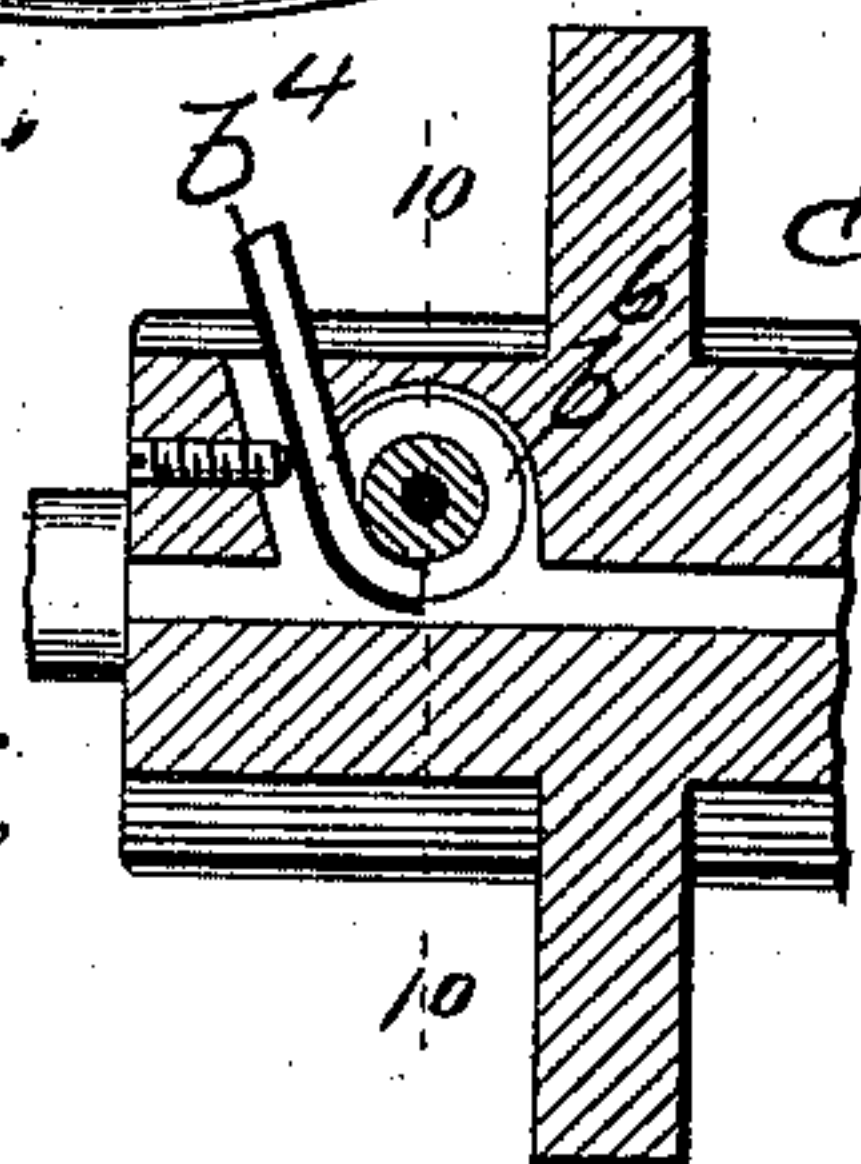


Fig. 12.



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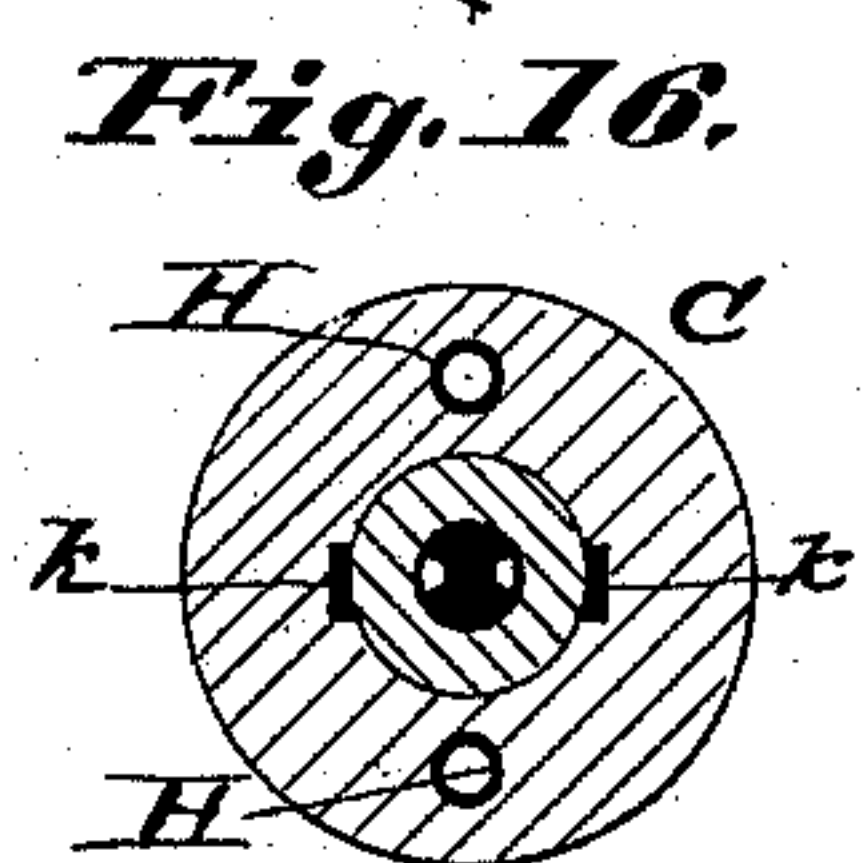
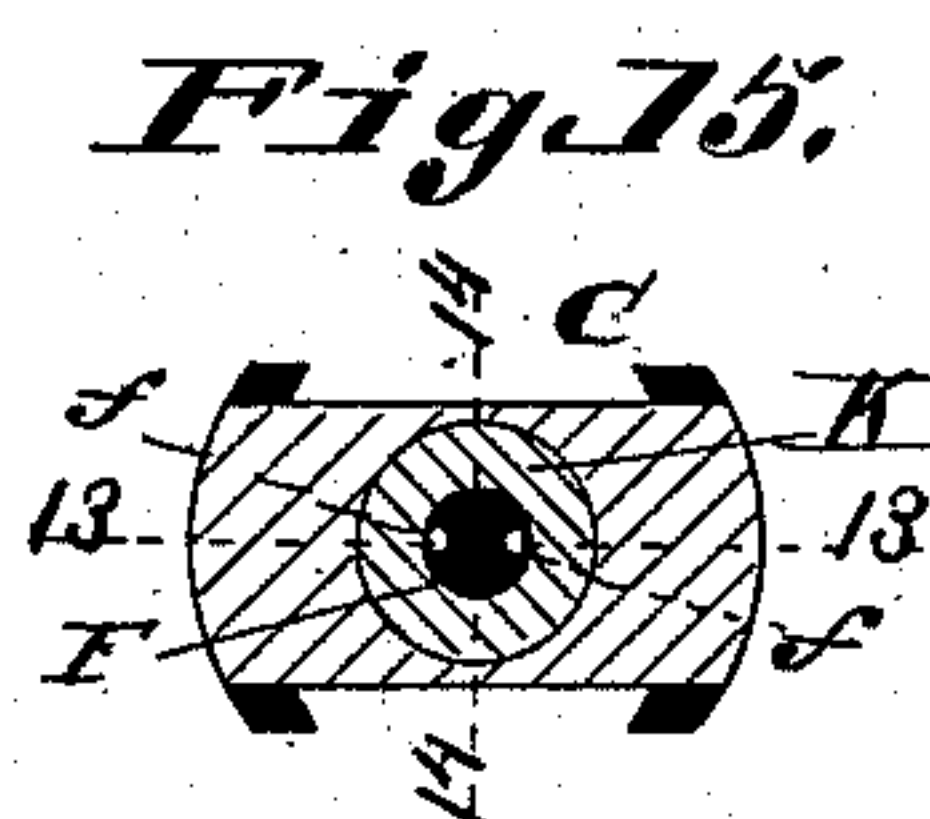
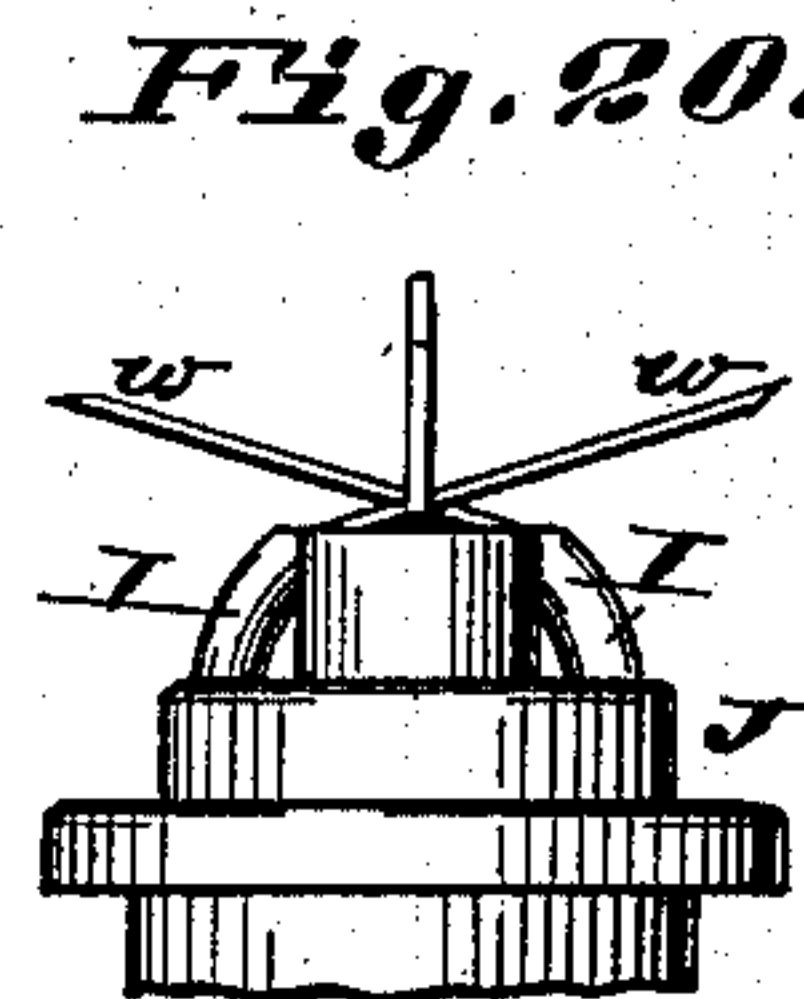
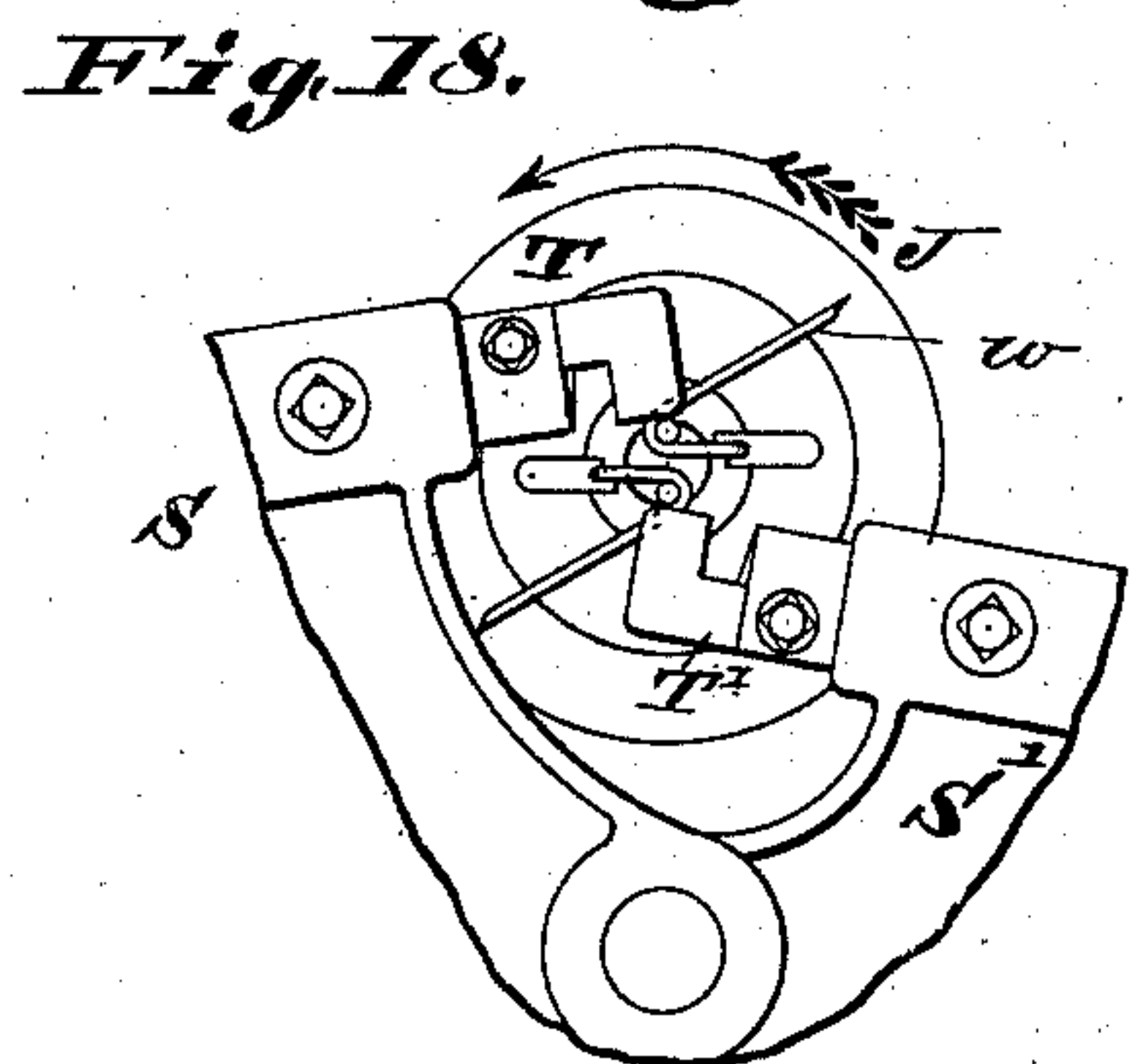
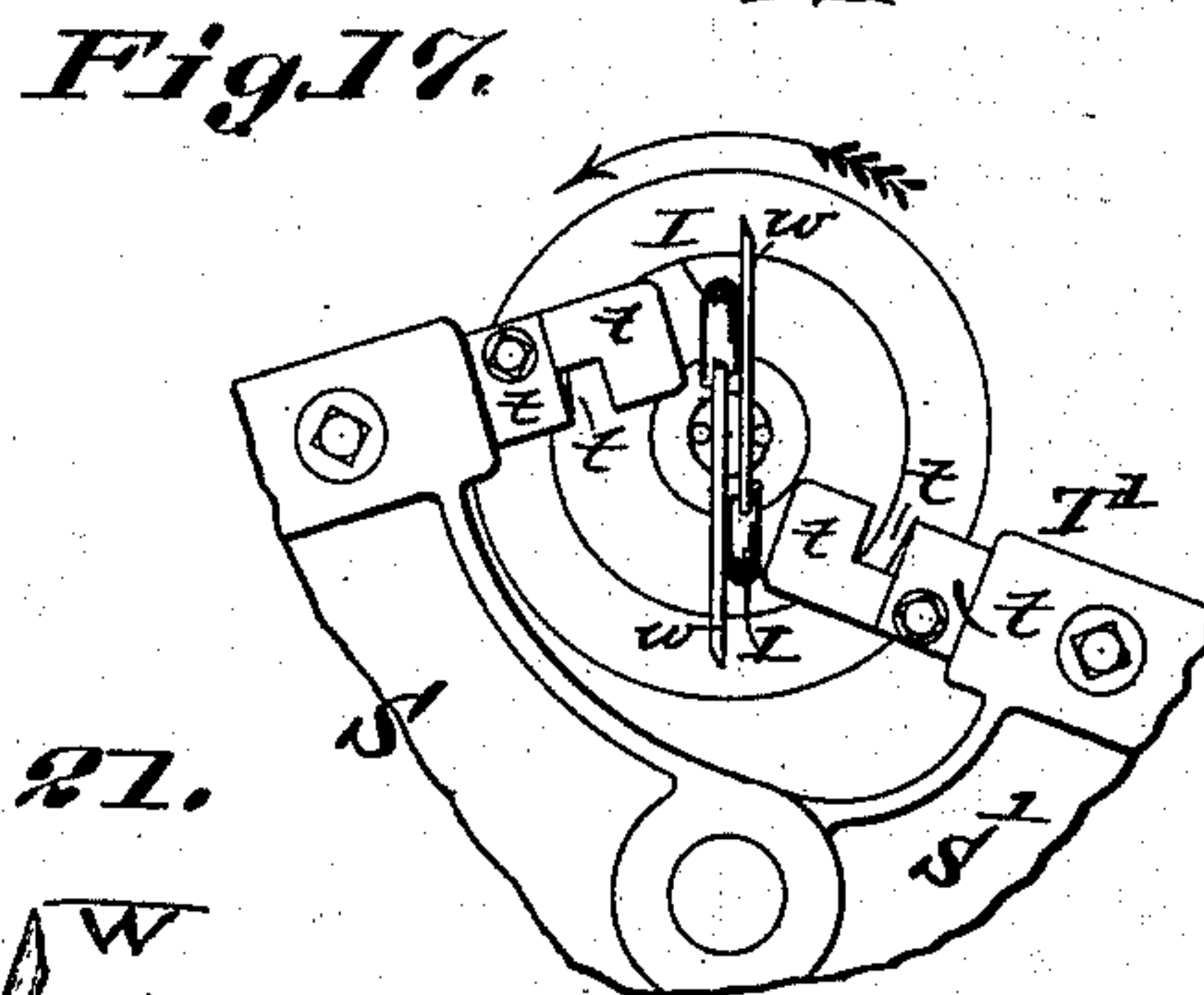
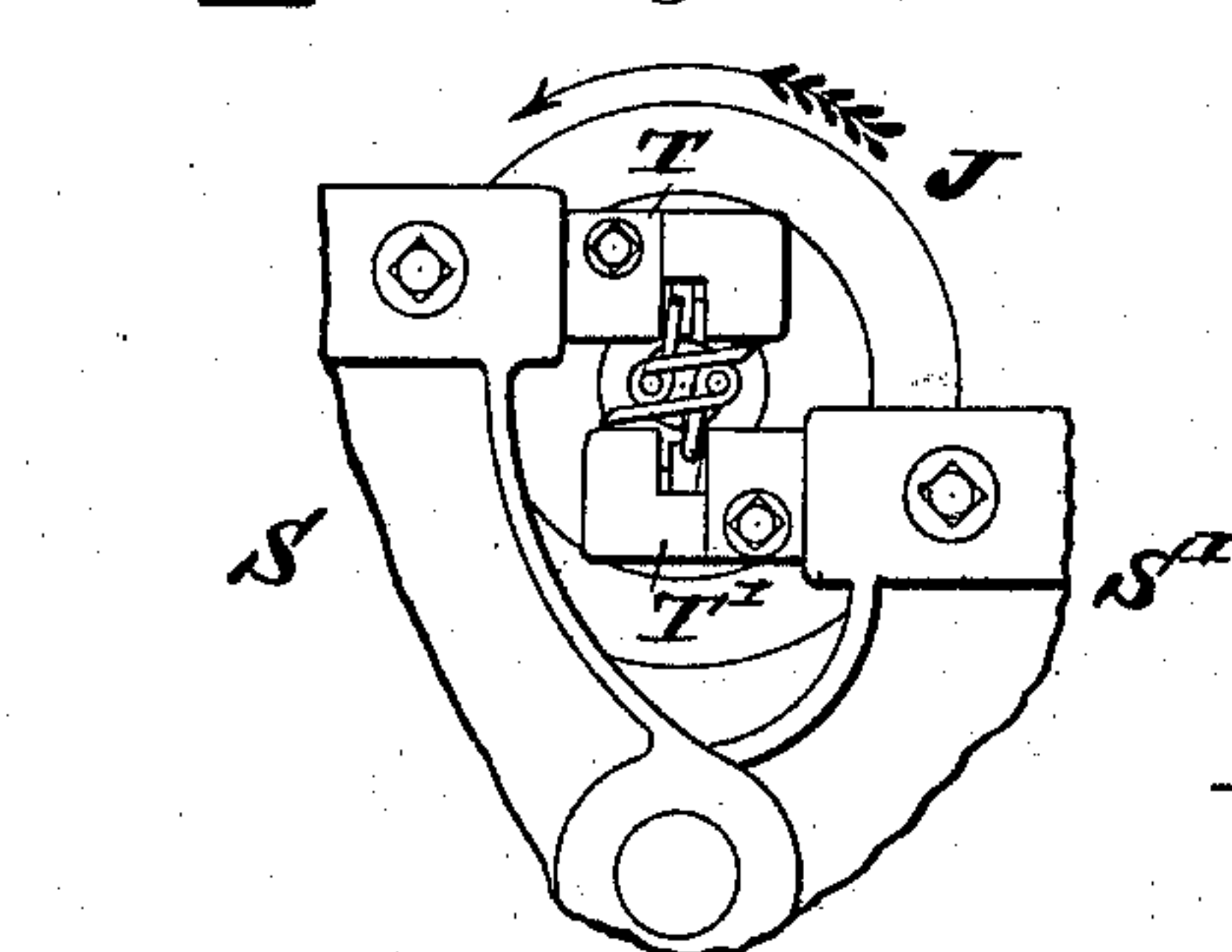
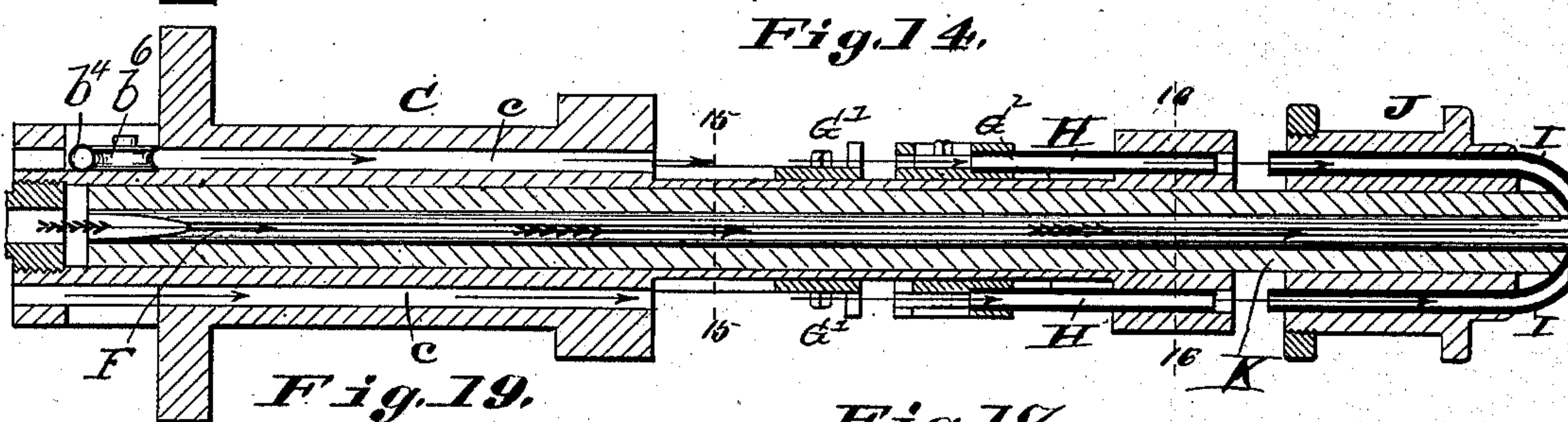
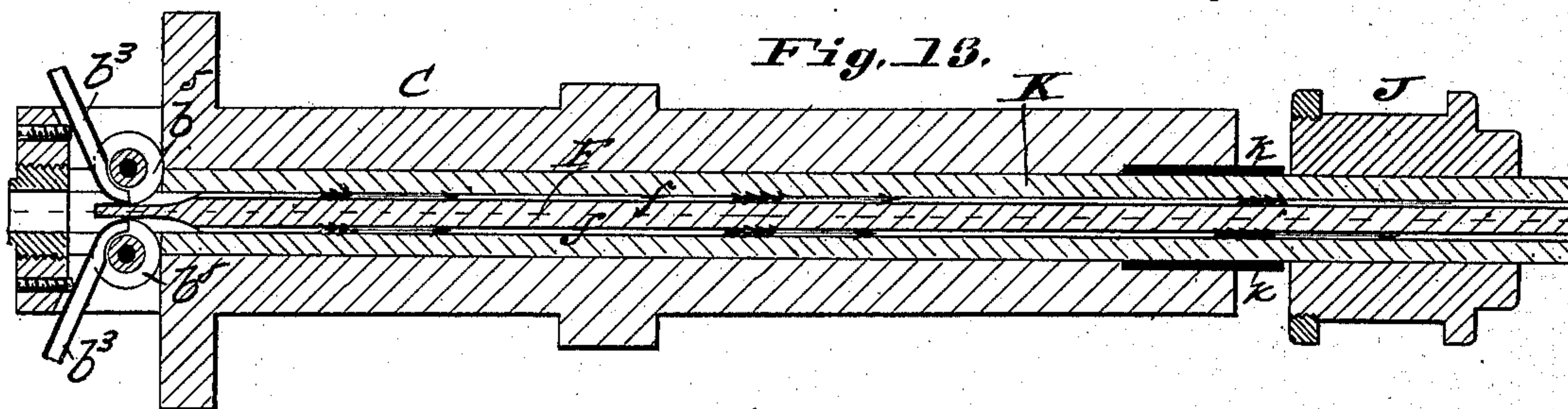
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UNITED STATES PATENT OFFICE.

GODFREY H. LASAR, OF ST. LOUIS, MISSOURI.

BARB-WIRE MACHINE.

SPECIFICATION forming part of Letters Patent No. 322,112, dated July 14, 1885.

Application filed May 6, 1884. (No model.)

To all whom it may concern:

Be it known that I, GODFREY H. LASAR, of St. Louis, Missouri, have made a new and useful Improvement in Barb-Wire Machines, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 is a plan of the improved machine; Fig. 2, a side elevation, partly in section, thereof; Fig. 3, a cross-section, upon an enlarged scale, on the line 3 4 of Fig. 2, the parts being as when the barb has been formed; Fig. 4, a similar section, the parts of the barb-forming device being in a different position; Fig. 5, a view in perspective of one of the barb-formers; Fig. 6, a view in perspective of the barb-former in a different position; Fig. 7, a view in perspective, looking toward the opposite end to that shown in Figs. 5, 6, of the former; Fig. 8, a plan, portions in section, of the flier; Fig. 9, a cross-section on the line 9 9 of Fig. 8; Fig. 10, a cross-section on the line 10 10 of Fig. 11; Fig. 11, a longitudinal section on the line 11 11 of Fig. 10; Fig. 12, a longitudinal section on the line 12 13 of Fig. 10; Fig. 13, a longitudinal section extending through to the forward end of the machine on the line 12 13 of Fig. 10; Fig. 14, a longitudinal section on the line 14 14 of Fig. 10; Fig. 15, a cross-section on the line 15 15 of Fig. 14; Fig. 16, a cross-section on the line 16 16 of Fig. 14; Fig. 17, an end elevation showing the first position of the barb-formers; Fig. 18, a similar elevation showing the barb partly formed; Fig. 19, another elevation showing the barb formed and ready to be severed; Fig. 20, a top view of a portion of the construction shown in Fig. 17, and Fig. 21 a view of the barb formed by the present machine.

The same letters of reference denote the same parts.

The present construction is an improvement in that class of barb-wire machines which make a four-point barb.

In its construction and operation the machine under consideration is substantially as follows: Three of the reels are held in the flier at what may be termed the "rear end of the machine." The fourth reel for the remaining one of the four wires is not shown. It may be located at any point from whence its

wire can be led to the flier. The flier is fastened to a stock which rotates in a suitable bearing. Within the stock is a barrel, and the barrel in turn contains a core. The strand-wires are fed through the core. The two barb-wires are fed along upon opposite sides of the stock, and thence through the head upon the forward end of the barrel, and thence across the face of the head and so as to pass between the strand-wires. A pair of arms pivoted to the same bearing are adapted to close toward each other as the barb-wires pass between the strand-wires, and by means of formers, which are attached, respectively, to the arms, are made, first, to hold the projecting ends of the barb-wires so that they shall be properly intertwined upon the strand-wires, and, second, by means of shears carried, respectively, by the arms to sever the barb-wires.

The improvement relates partly to various details of construction and partly to the general combination of the various parts of the machine, whereby a simple, effective, and rapidly-working construction is obtained.

A, Figs. 1, 2, represents the improved machine.

B represents the flier. It is attached to the stock C, which is held in the bearing *d* of the frame D of the machine.

E E' E², respectively, represent the three reels, which are held in the flier. They may be used for the two strand-wires and one of the barb-wires, or for the two barb-wires and one of the strand-wires, as desired. The reels are supported in the flier as shown in Figs. 8, 9—that is, upon the bar *b*, which is held centrally and removably in the flier. The bar *b* is slotted longitudinally at *b'*, Figs. 8, 9, through which slot one of the wires, if desired, can be passed. The other wires lead from the reels respectively and around the sheaves *b² b²*, substantially as indicated by the arrows and the broken lines in Fig. 8, and from the forward sheaves the wires pass down the tubes *b³ b⁴* to the stock C—that is, the strand-wires pass through the tubes *b³* to and around the sheaves *b⁵ b⁵*, Figs. 10, 12, and the barb-wires pass down the tubes *b⁴ b⁴*, Fig. 9, to and around the sheaves *b⁶ b⁶*. When one of the strand-wires, instead of being led around the sheaves *b²*, is passed through the slot *b'* of

the bar b , it is carried from the slot past one of the sheaves b^5 . From the sheaves b^5 b^5 the strand-wires pass into and through the grooves f f , respectively, which are extended longitudinally throughout the length of the core F. The barb-wires are led from the sheaves b^5 b^5 through the passages c c , respectively, of the stock C. From the passages c c the barb-wires are extended upon opposite sides of the stock, past the dogs G G and through the tubes H H, which are attached to the stock, and substantially as shown in Fig. 14. From the tubes H H the barb-wires pass, respectively, into the tubes I I. These last-named tubes are held and extended through the head J, and after passing through the head are made to converge in front of the forward end of the core F. The head J is mounted upon the barrel K. The barrel contains the core F, and the head, barrel, and core together have a reciprocating movement, the barrel extending rearwardly into the stock, and being adapted to be moved longitudinally therein. The stock is provided with a gear, L, which engages with a gear, M, upon the driving-shaft N. This driving-shaft is provided at its forward end with the bevel-gear N', which engages with the bevel-gear O upon the crank-shaft O'. A pitman, P, leads from the crank-shaft O' rearwardly, and is jointed at P to a bracket, Q, which in turn is fastened to the slide R. The slide is provided with a standard, R', in which is journaled the head J. The motion of the shaft N, therefore, through the parts N' O O' P Q R R' causes the head J, barrel, and core to be moved forward and backward in the stock of the machine. The head J, the barrel K, and core F are adapted, however, to rotate with the stock in the customary manner, and to that end the head may by any suitable means (not shown) be secured to the barrel, and the barrel may be furnished with the splines k k , Figs. 13 and 16, which work in corresponding grooves in the stock, and the core and barrel are also suitably connected so as to move together.

S S' represent a pair of arms pivoted to the bearing S² on the slide R. The upper ends of the arms are caused to move toward each other by means of the cams S³ S⁴, which, by means of the sleeve, (shown but not lettered,) are attached to the shaft N, and the spring S⁵ operates to withdraw the upper ends of the arms from each other, the two positions being shown, respectively, in Figs. 3, 4. The arms S S' are respectively provided with the barb-formers T T'. That part, t , of the former against which the projecting end w of the barb W presses is notched, as shown at t' , Figs. 5, 6, 7. As this part t is subjected necessarily to a great deal of wear, and in consequence is liable to be worn away, it is made removable from the main portion of the former, and to this end the part t is provided with the shank t^2 , Fig. 7, which is adapted to be inserted in a mortise of corresponding shape in the main part t^3 of the former, and

therein secured by means of a set screw, t^4 . The former is also provided with the shear t^5 .

The operation of the barb-formers is indicated by the various positions of the parts shown in Figs. 17, 18, 19. When the ends w w are suitably projected from the tubes I I, as in Fig. 17, the barb-formers are operated to close toward each other, bringing the formers and the wires w w into the position shown in Fig. 18. By continuing to close the barb-formers the wires w w are suitably intertwined upon the strand-wires W' W', as shown in Fig. 19, and the shears t^5 t^5 then operate to sever the wires w w from the main portion of the barb-wires, and the barb W is finally completed, as shown in Fig. 21. The finished barb-wire passes over the sprocket-wheel X, and thence to the customary wheel. (Not shown.) When the part t of the barb-former is worn out, a new one is inserted in its place in the former. One, S', of the arms S S' is made shorter, as shown, than the other arm, in order to swing the barb-former T' past the barb-former T in forming the barb. In thus swinging the barb-formers in arcs they can be made to act to better advantage in forming the barbs than if the barb-formers are moved past each other in parallel lines. It also enables the machine to be made lighter and its construction to be simplified. The dogs G G are adjusted by means of the stops G' G'. The center reel, E', is supported directly upon the bar b . The other reels, E E², are journaled upon the sleeves e e^2 , respectively, which are, and as shown at e^3 e^4 , Figs. 8, 12, respectively screwed into the flier and stock, and respectively at the rear and forward ends of the flier. The bar b passes through the sleeves. This enables the reels E E² to be supported in the flier when the reel E' is withdrawn therefrom.

As shown in Fig. 8, two of the reels are for the barb-wires, and one of the strand-wires is led from the reel mentioned as not being attached to the flier, and such strand-wire may be led through the bar b or around the flier, and, in such last case, it may be led in either of the directions indicated by the arrows b^8 b^{10} , respectively. The bar b , at its outer end, is provided with a lug, b^{20} , which, when the bar is in place, enters a corresponding notch, b^{30} , in the flier. The lug, the notch, and one of the grooves f are relatively arranged so as to cause the groove b' to coincide with the groove f when the bar b is in place. The bar b may also have a handle, b^{15} . Having but a single groove, b' , in the bar b insures the proper relative adjustment of the groove to that one of the grooves f f with which the groove b' should coincide.

I claim—

1. The combination of the arms S S', pivoted to the center S², and provided, respectively, with the formers T T', with the cams S³ S⁴, the spring S⁵, the shaft N, the head J, the barrel K, the core F, and the slide R, as described.

2. A barb-wire machine having the barb-

formers T T' attached to a pair of arms, S S', constructed as described, and pivoted to the same center, S², and thereby adapted to swing the barb-formers in arcs and past each other in forming the barb, as described.

3. The barb-former T, having the detachable part t, as and for the purpose described.

4. The combination of the stock C, the frame D, the gears L M N' O, the core F, the barrel K, the head J, the shafts N O', the pitman P, the bracket Q, the sleeve carrying the cams S³ S⁴, the slide R, the standard R', and the arms S S', pivoted to the bearing S² and carrying the formers T T', as described.

5. In a barb-wire machine, the arms S S', pivoted to the bearing S², and made one longer than the other, as and for the purpose described.

6. In a barb-wire machine, the combination of the pivoted arms S S', of different lengths, the bearing N, and the cams S³ S⁴, said cams having different throws to cause the upper ends of the arms to move equally.

GODFREY H. LASAR.

Witnesses:

CHAS. D. MOODY,
C. T. BISER.