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E. S. ERICKSON

2,022,190

RELEASABLE WRINGER HEAD

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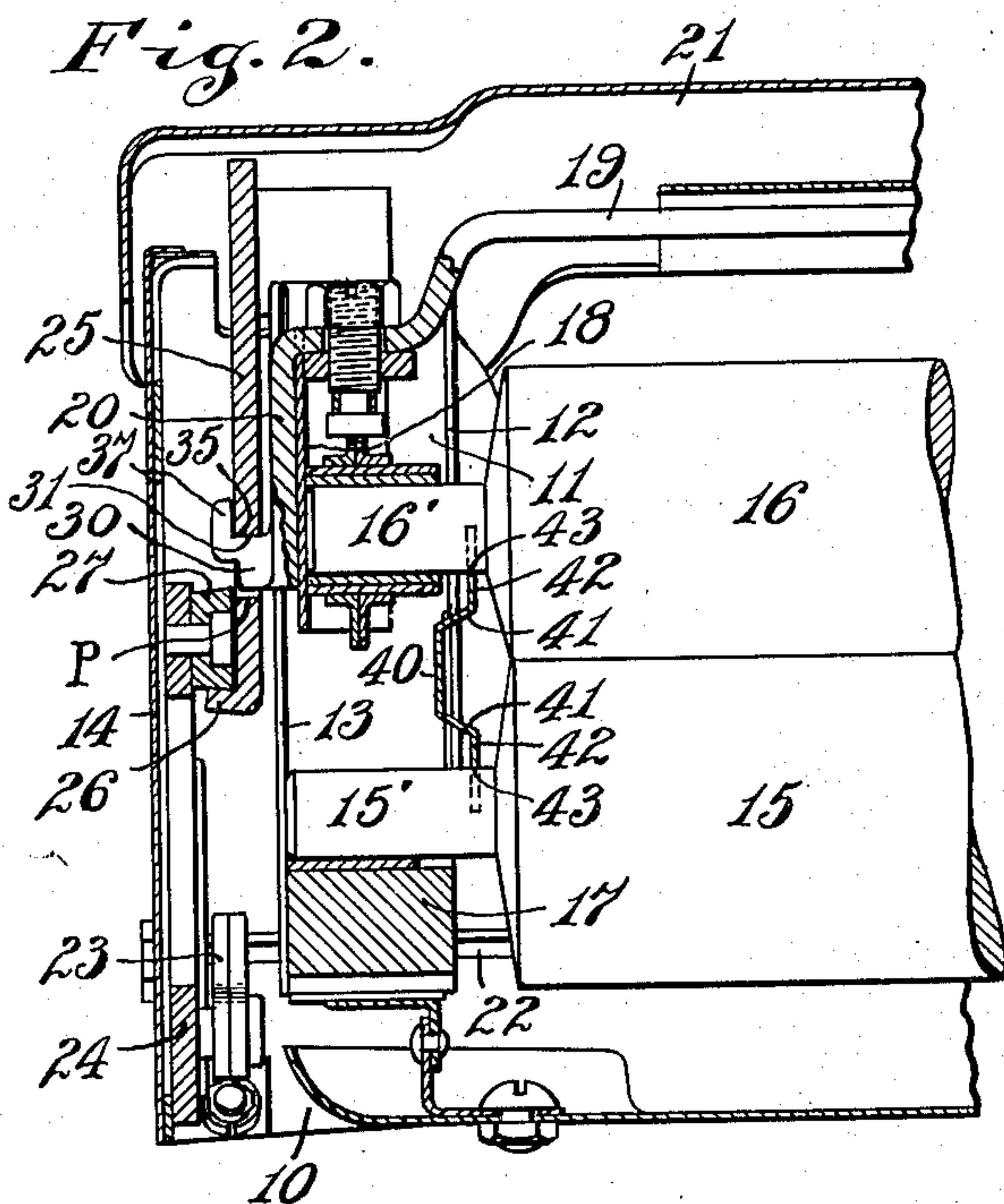
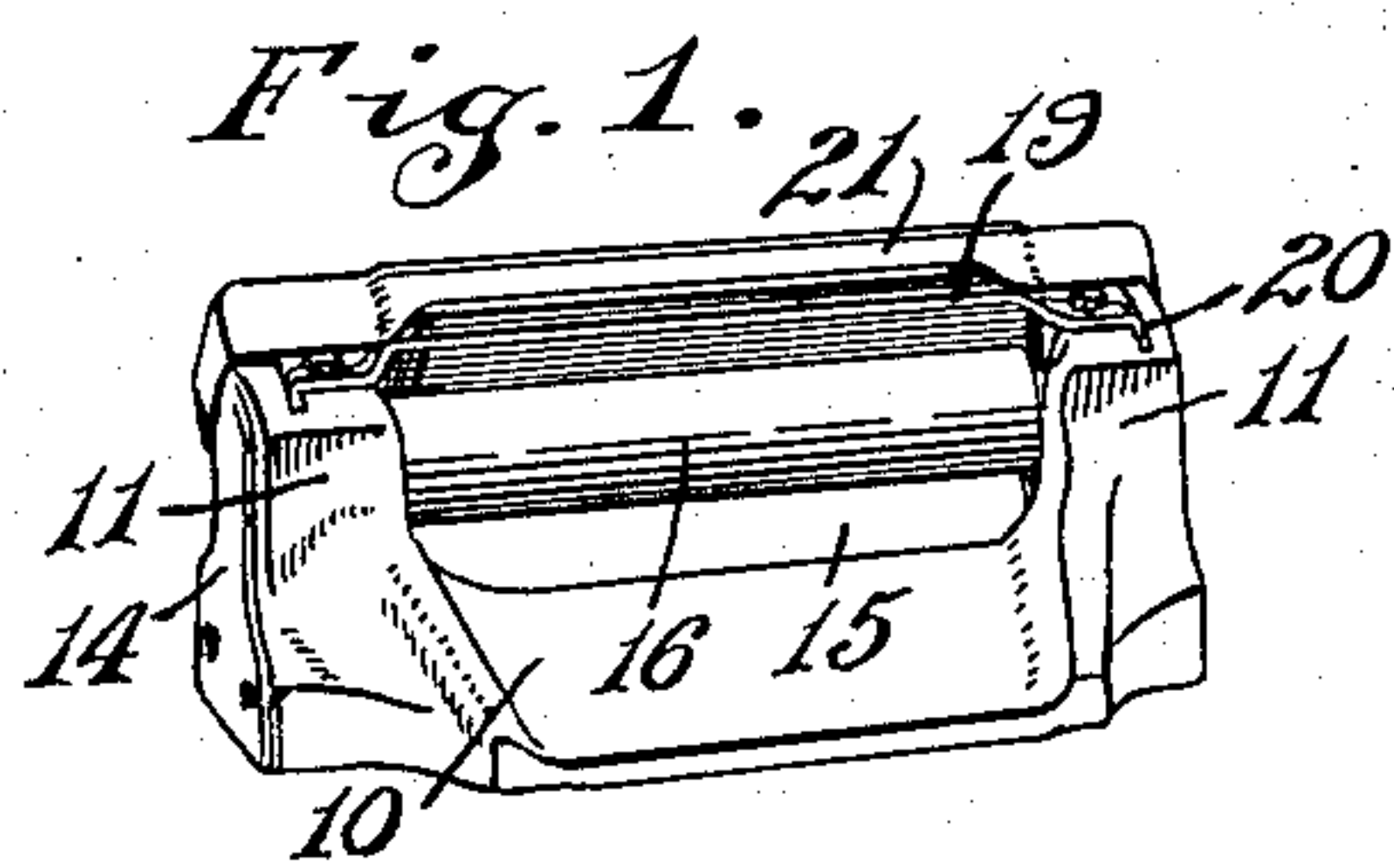


Fig. 3.

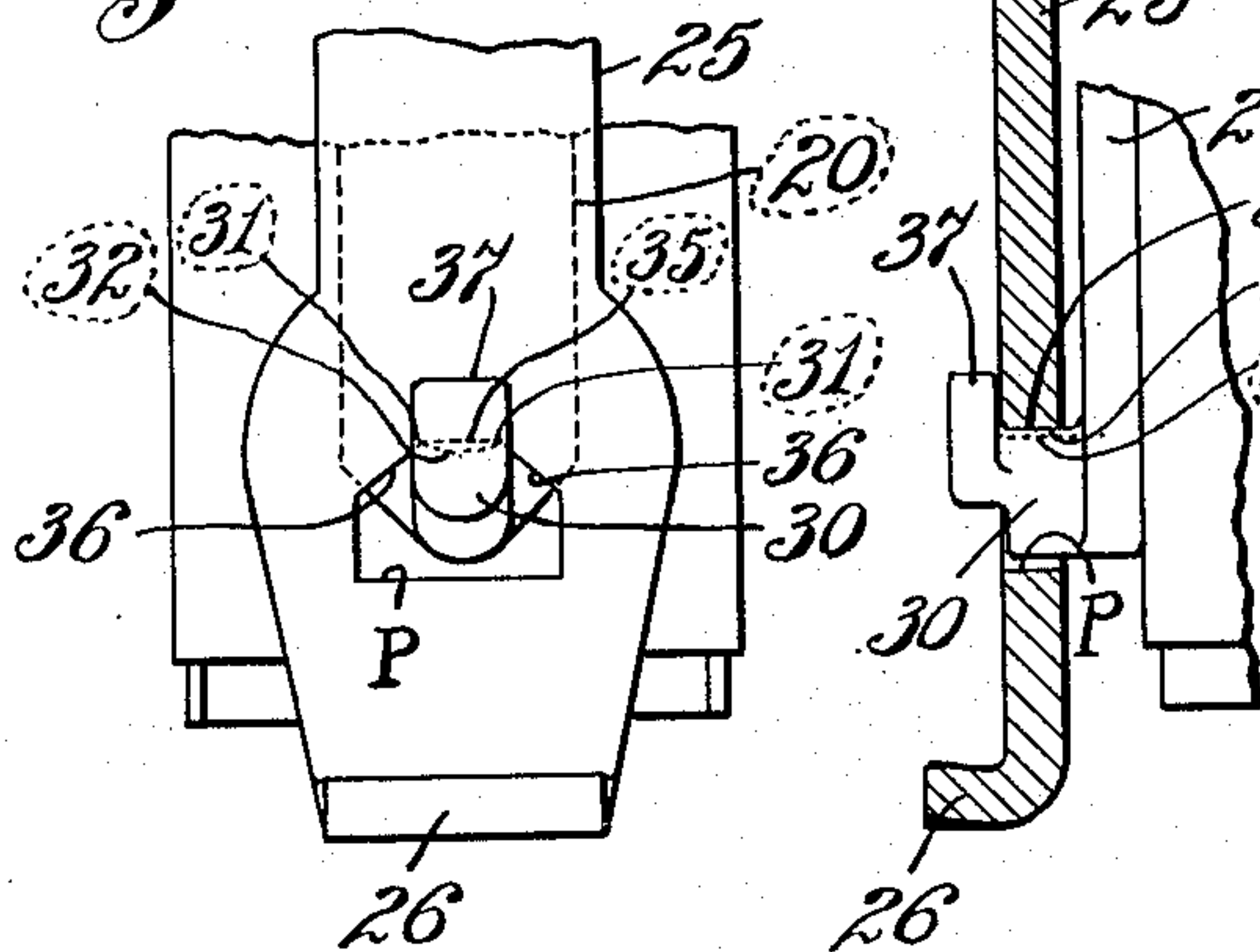


Fig. 4.

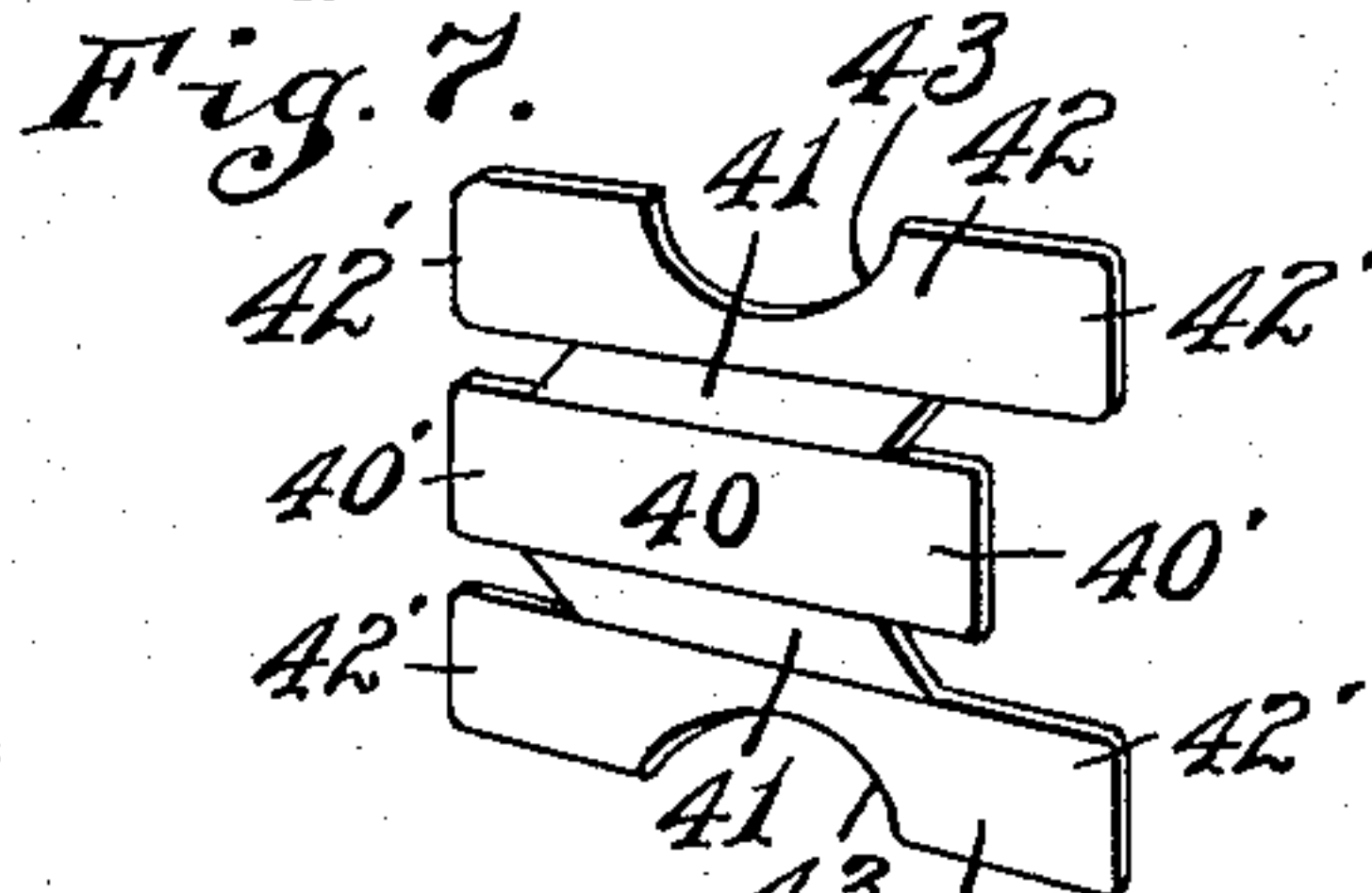
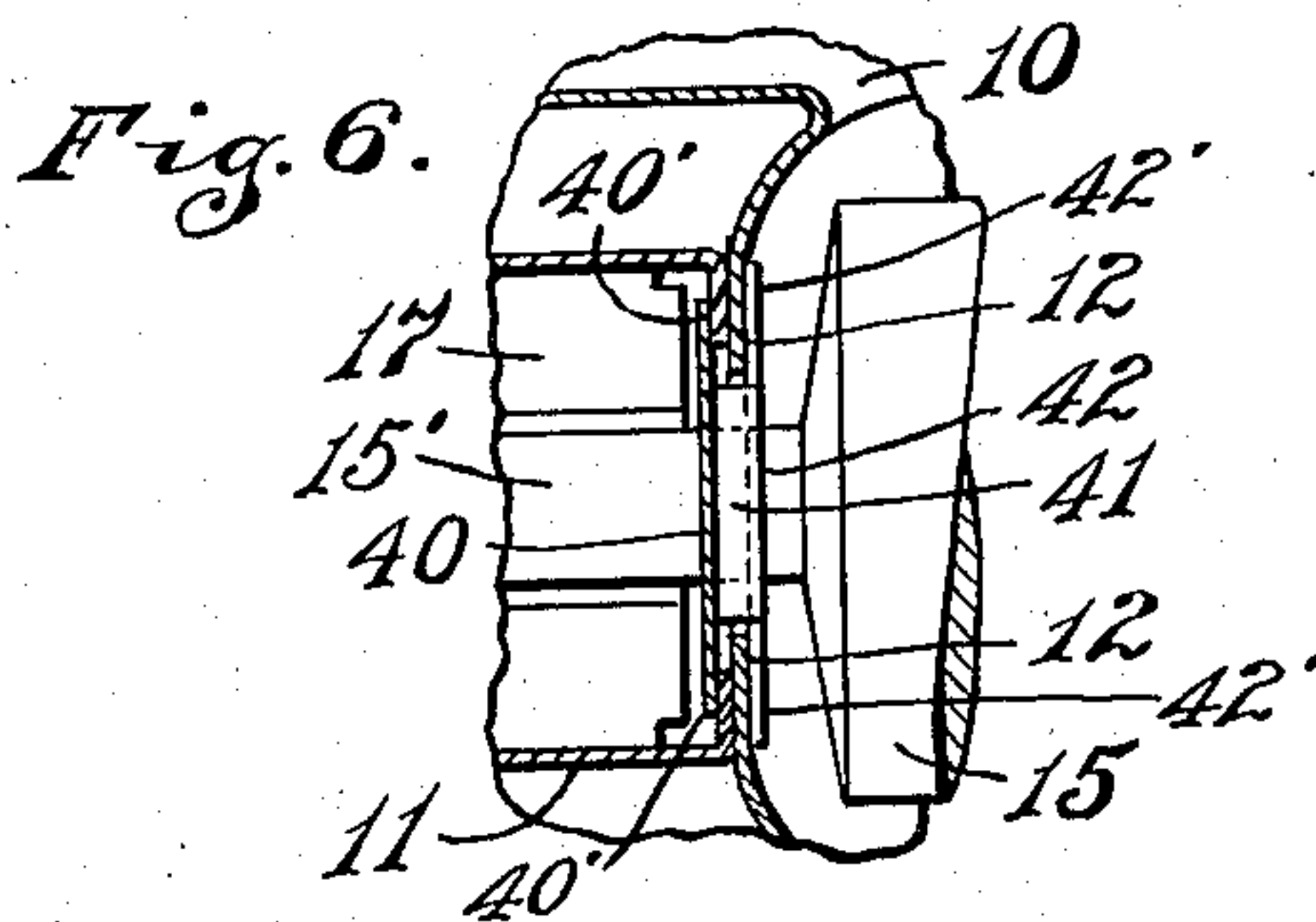
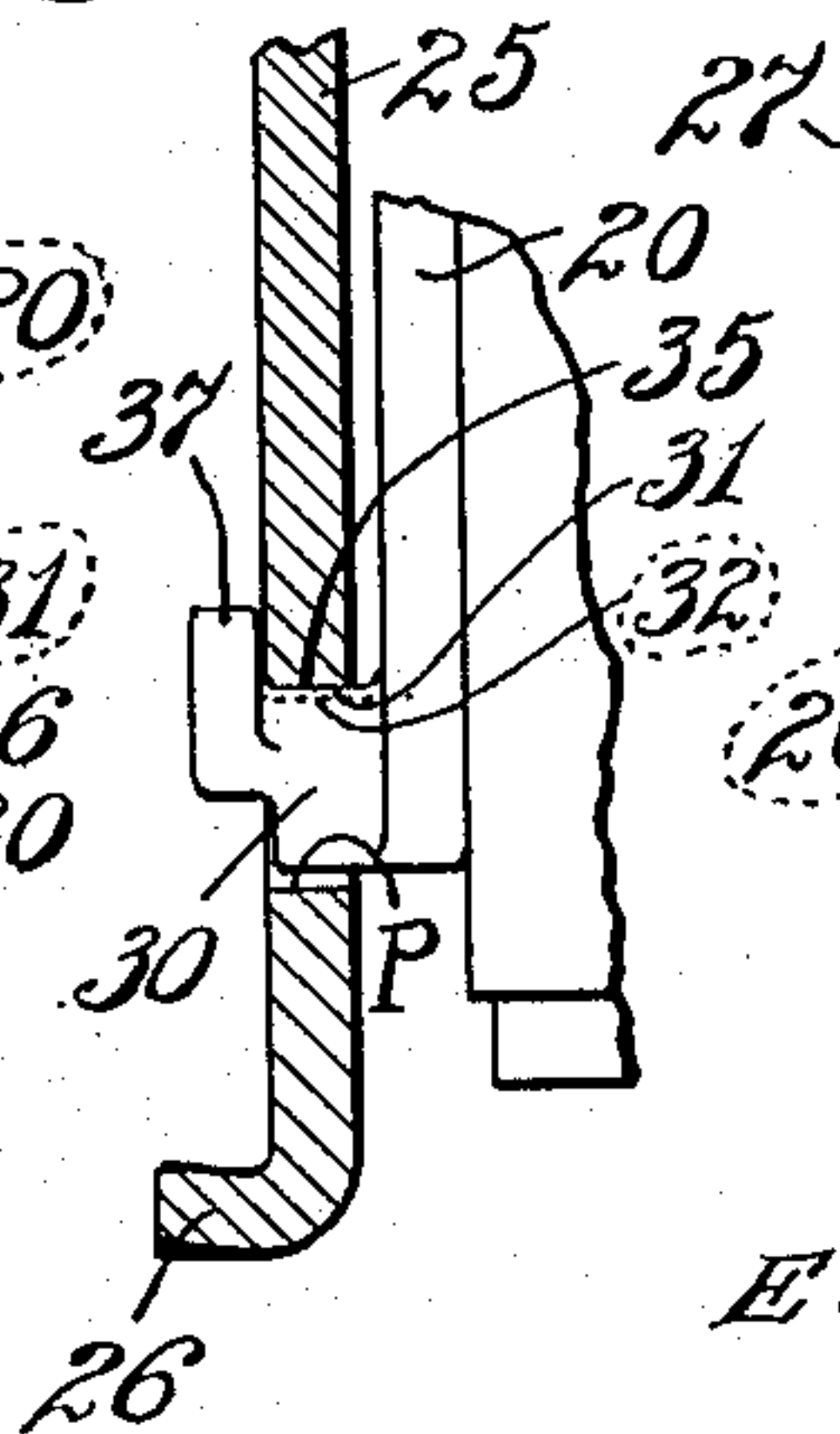
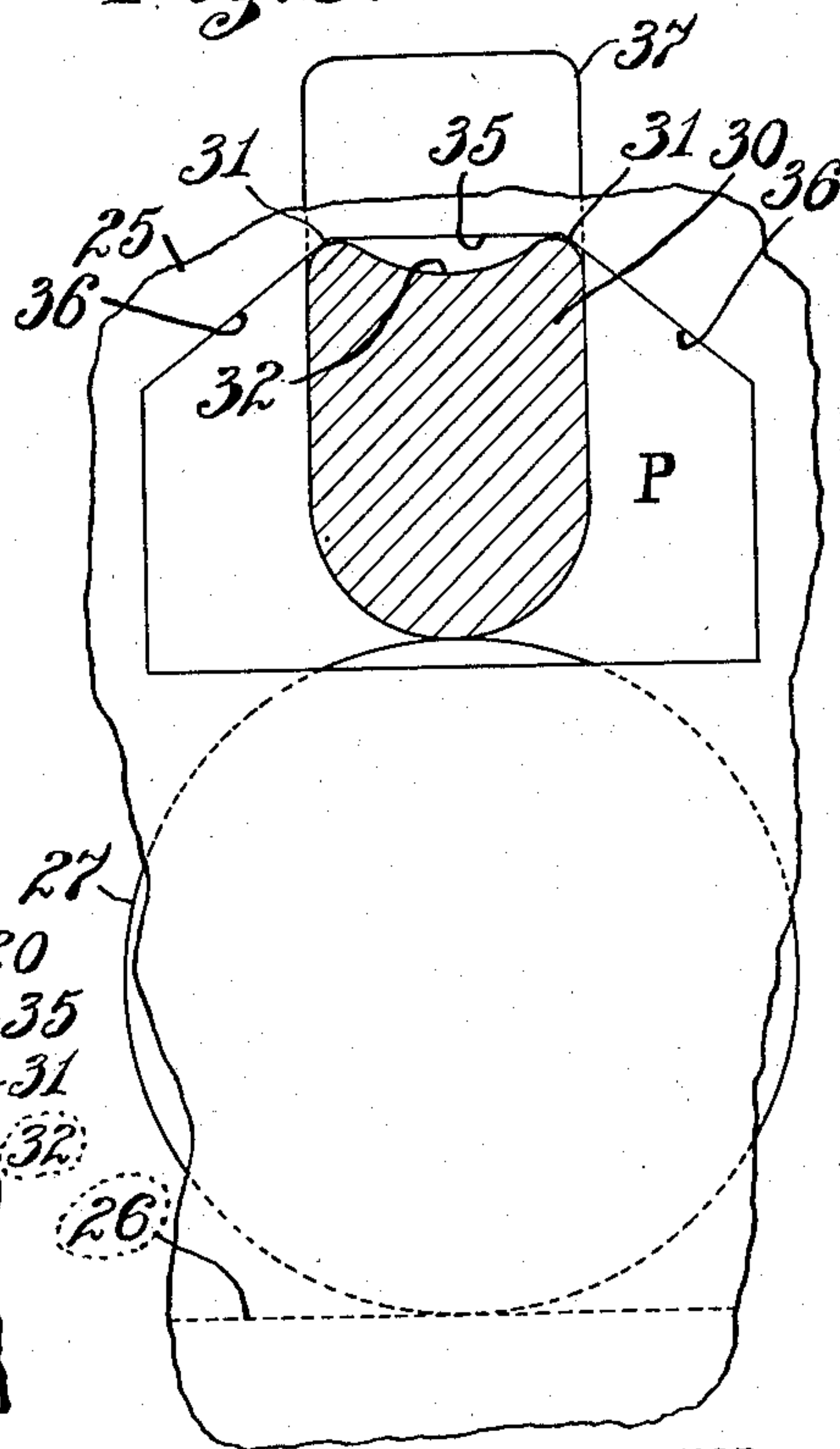


Fig. 5.



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RELEASABLE WRINGER HEAD

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3 Claims. (Cl. 68—32)

My invention relates to improvements in details of construction of clothes wringers, first in the safety release mechanism by means of which the working pressure between the two rolls may be more readily released in case of accident, without sacrificing permanency of such working relation during ordinary operation, and second, in low cost means for guarding the bearings of the lower roll against the water which is squeezed out of the material which is passed between the rolls.

The accompanying drawing illustrates my invention;

Fig. 1 is a perspective, on a small scale, of a commercial type of wringer in which my invention has been embodied;

Fig. 2 a fragmentary vertical section axially through the rolls;

Fig. 3 a fragmentary elevation of a portion of the pressure-controlling means;

Fig. 4 a vertical section of the parts shown in Fig. 3;

Fig. 5 a considerably magnified fragmentary sectional detail of the parts shown in Figs. 3 and 4;

Fig. 6 a fragmentary horizontal section of the water deflector and associated parts; and

Fig. 7 a perspective of the water deflector.

In the drawing 10 indicates the base of the wringer formed most conveniently of pressed sheet metal and comprising channel-shaped end standards 11, 11 comprising vertical inner flanges 12, 12, intermediate flanges 13 and end wall 14, the flanges 12 and 13 being spaced from each other axially of the lower roller 15 and upper roller 16 to form vertical channels for the reception of the lower roll bearing 17 and reception and guidance of the upper roll bearing carrier 18, said carrier, with its upper roll bearings being vertically extractible from the open upper end of the channel formed by the vertical flanges 12 and 13.

The bearing carriers 18 are carried by a yoke 19 provided with depending ends 20.

Pivotally associated with the yoke 19 is the upper cross bar 21 by means of which torsion springs 22, mounted in the base 10 and provided with radially-extending arms 23 pivotally associated with upwardly-extended connector plates 24, may be associated with the upper roll so as to spring-urge said upper roll upon the lower roll.

The construction thus far described is described more in detail in the Conarroe Patent 1,906,841 issued May 2nd, 1933.

In that construction cross bar 40 is provided with depending fingers 31 each of which is piv-

oted upon a pin 36 carried by the yoke 35, the axis of which is necessarily, when in working position, in the same vertical plane as the axes of the rolls 33 carried by the upwardly-extending connectors 28.

In order to obtain sufficient stability of spring pressure in such a construction it was found necessary, as was pointed out in that patent, to slightly notch the finger 38 to form a shallow pocket for the reception of the roller 33, as otherwise the cross head 40, in its medial and operating position was too unstable. But it was also found that the provision of such a stabilizing pocket made it necessary for the operator, in case of accident, to exert a considerable degree of force laterally against the cross bar, to release the upper roll from the operating spring pressure.

I have overcome this difficulty, without the sacrifice of stability, in the following manner:

In my present construction the cross head 21, at each end, is provided with a depending finger 25 having an outwardly-projected and slightly upwardly inclined tip 26 adapted to underride the roll 27 carried by the adjacent upwardly-extending connector 24, the same as in the above-mentioned Conarroe construction, but instead of providing a single-axis pivot pin for the connection between yoke 19 and fingers 25, I provide a two-axis pivot pin 30 formed, as more clearly illustrated in Fig. 5, to afford two parallel fulcrums 31, 31 arranged on opposite sides of the vertical plane of the axis of roller 27, these two axes 31, 31 being most conveniently formed by slightly rounding the upper edges of the pin 30 and preferably, though not necessarily, forming a shallow clearance trough 32 therebetween in order to insure against any such accumulation of lint or other waste between the pivot edges 31, 31 as would interfere with proper operation of the device. The finger 25 forms a swinging carrier for the tip 26, which tip has an overlapping cooperation with the roller 27.

In order to cooperate with the two-axis pin 30, finger 25 is provided with a polygonal perforation P having an upper surface 35 flanked at each end by downwardly and outwardly inclined surfaces 36, 36 so proportioned, relative to pin 30, that the junctions between the surfaces 35—36 will rest upon the edges 31, 31.

Perforation P as a whole is of sufficient width and height to afford freedom of movement of finger 25 on finger 30 and, in order to insure maintenance of association of the fingers 25 and 30, the finger 30 at its outer end is provided with a laterally-extended tip 37.

With this arrangement a lateral force exerted upon cross head 21, in either direction will pivot the fingers 25 upon that axis 31 most distant from the applied force and the fingers 25 will pivot thereon. It will be noted that the arc of swing of the upper surface of tip 26, about either one of the pivot axes 31, is almost tangent to the roll 27 and, as the upper surface of the tip 26 may now be perfectly smooth, very little lifting effort upon the connectors 24, tending to further stress the springs 22, is necessary to withdraw tips 26 from beneath rolls 27. But it will be further noted that my construction provides ample stability of working association between the springs and the upper rollers 16 because of the extended lateral support of finger 25 upon opposite sides of the vertical plane of the axis of roll 27.

It will be readily understood that while I have shown my improved connection in association with other details of wringer construction, the said improved connection may be used in various types or wringers without substantial modification.

The inner edges of the flanges 12, 12 are spaced from each other so that, unless deflected, water squeezed from the clothes near the ends of the rollers 15 and 16, may, unless deflected, be projected down upon the exposed ends of the lower roller axle 15' and into the open bearings of the bearing blocks 17.

In order to deflect this water I have provided the inexpensive sheet metal guard or deflector shown in Figs. 2, 6 and 7, said deflector comprising a medial portion 40 having tips 40', 40', intermediate portions 41, 41 and upper and lower portions 42, 42, each having tips 42', 42' and each medially notched, at 43, to fit over the exposed portions of the upper and lower roller axles 16' and 15' immediately adjacent the ends of the rollers.

The upper and lower portions 42, 42 are offset from the plane of the middle portion 40 an amount substantially equal to the thickness of the flanges 12, as shown in Fig. 6, so that, after the lower roller has been placed in position, the deflectors may be telescoped over the flanges 12, between said flanges as clearly shown in Figs. 2 and 6.

I claim as my invention:

1. In a wringer, the combination of a base having vertically channeled end standards comprising laterally-spaced inner channel-flanges, and a water-deflector having at each side projections spaced to telescope over one of said channel flanges, said deflector being dimensioned to bridge the space between said channel-flanges and the roller shafts.

2. In a wringer, means for releasably connecting one of the two rollers to a spring, comprising two overlappable interlocking elements, a pivotally-supported swinging carrier for one of said elements, and two pivot axes for said carrier laterally spaced upon opposite sides of a plane including the axis of said one roller and the point of interlocking engagement of said overlapping elements, the engagement between axes and carrier permitting free rocking separation.

3. In a wringer means for releasably connecting one of the two rollers to a spring, comprising a pivotally-supported swinging carrier and a support therefor, one of said last-mentioned elements forming two laterally-spaced parallel axes and the other having an axis-receiving perforation affording two laterally-spaced contact lines for said axes and freely rockably separable therefrom, and two overlappable elements one carried by the swinging carrier and the other connected to said spring, the medial plane of engagement between said overlappable elements lying in a plane passing between said axes.

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