

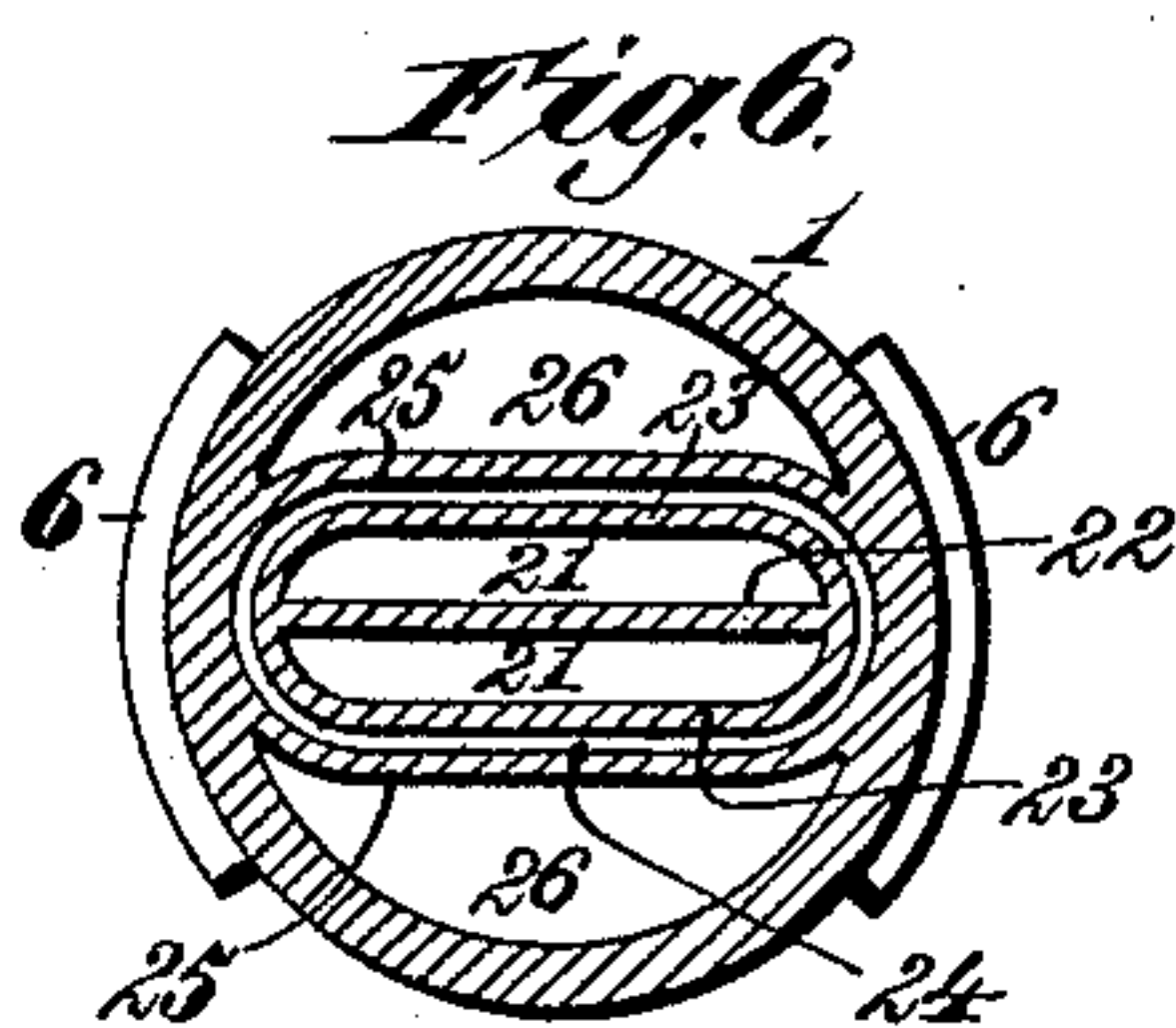
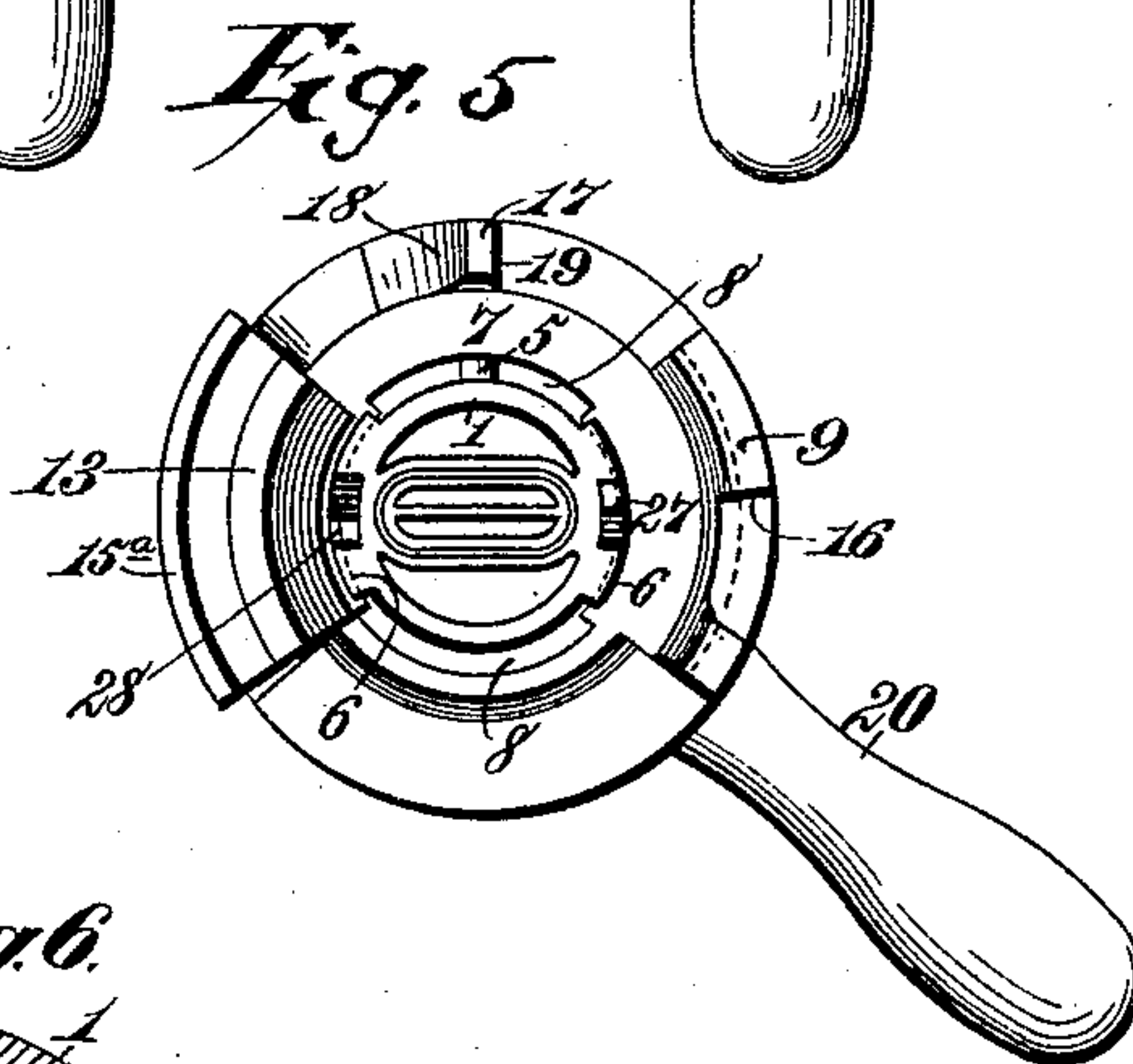
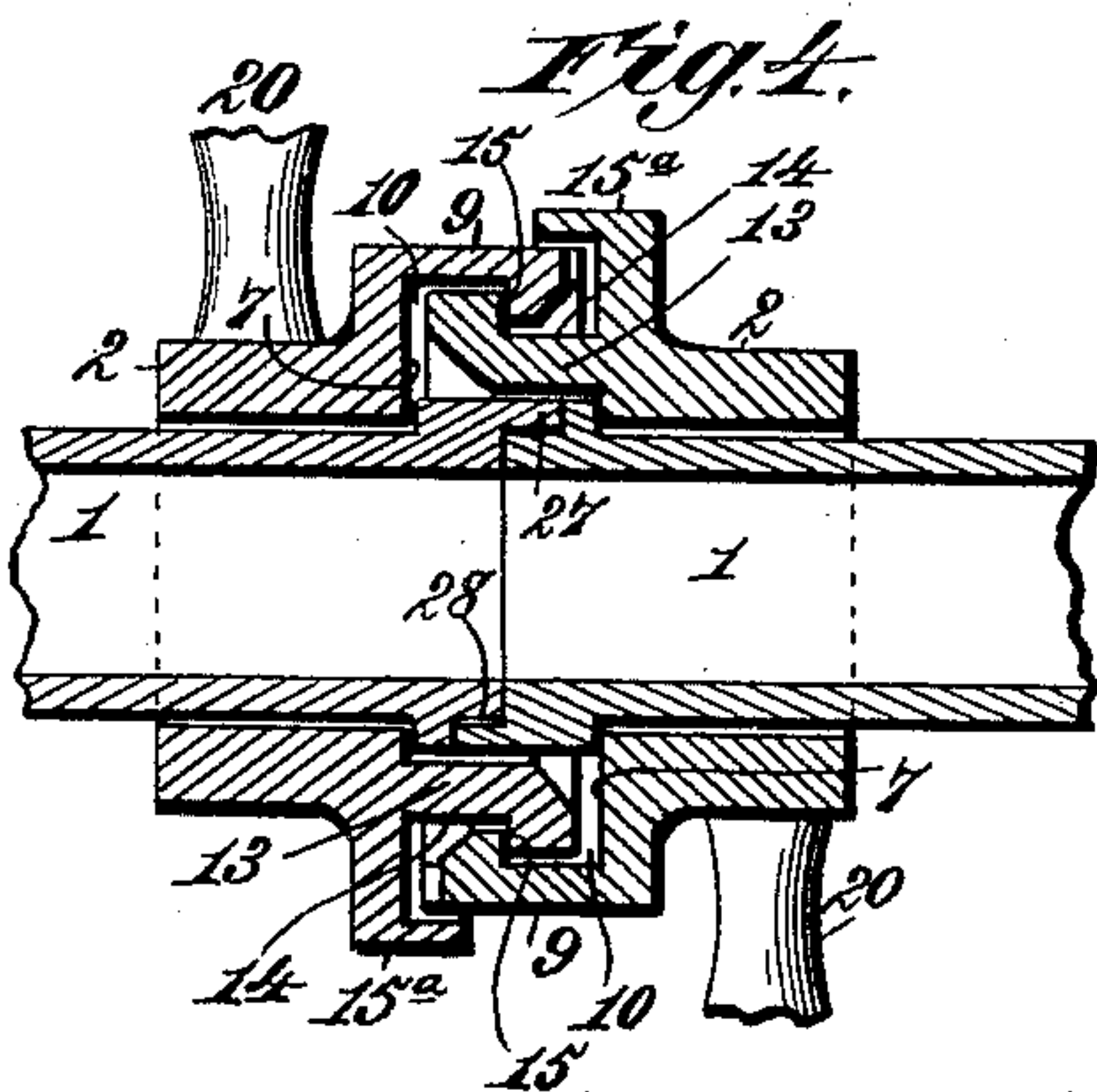
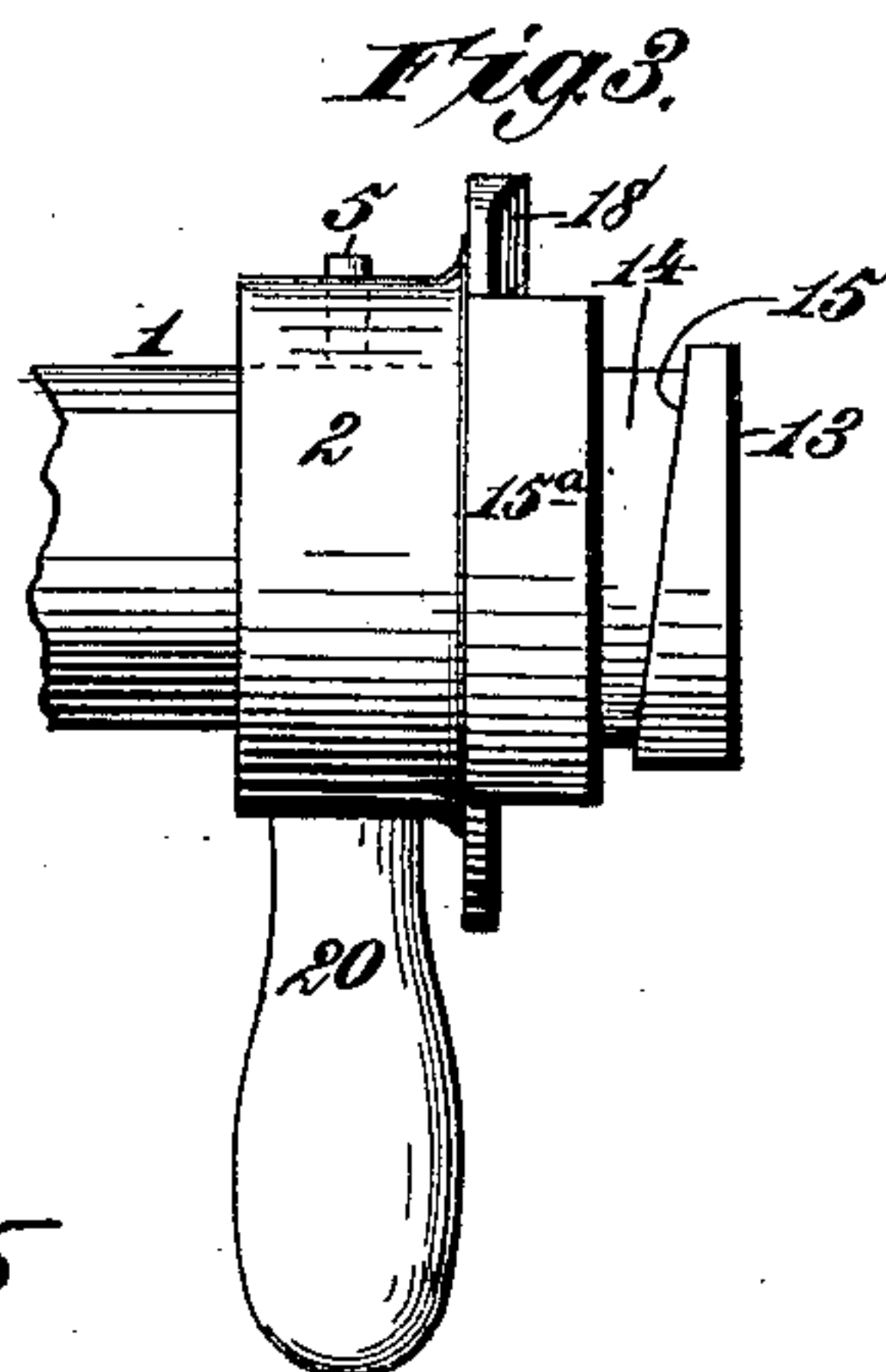
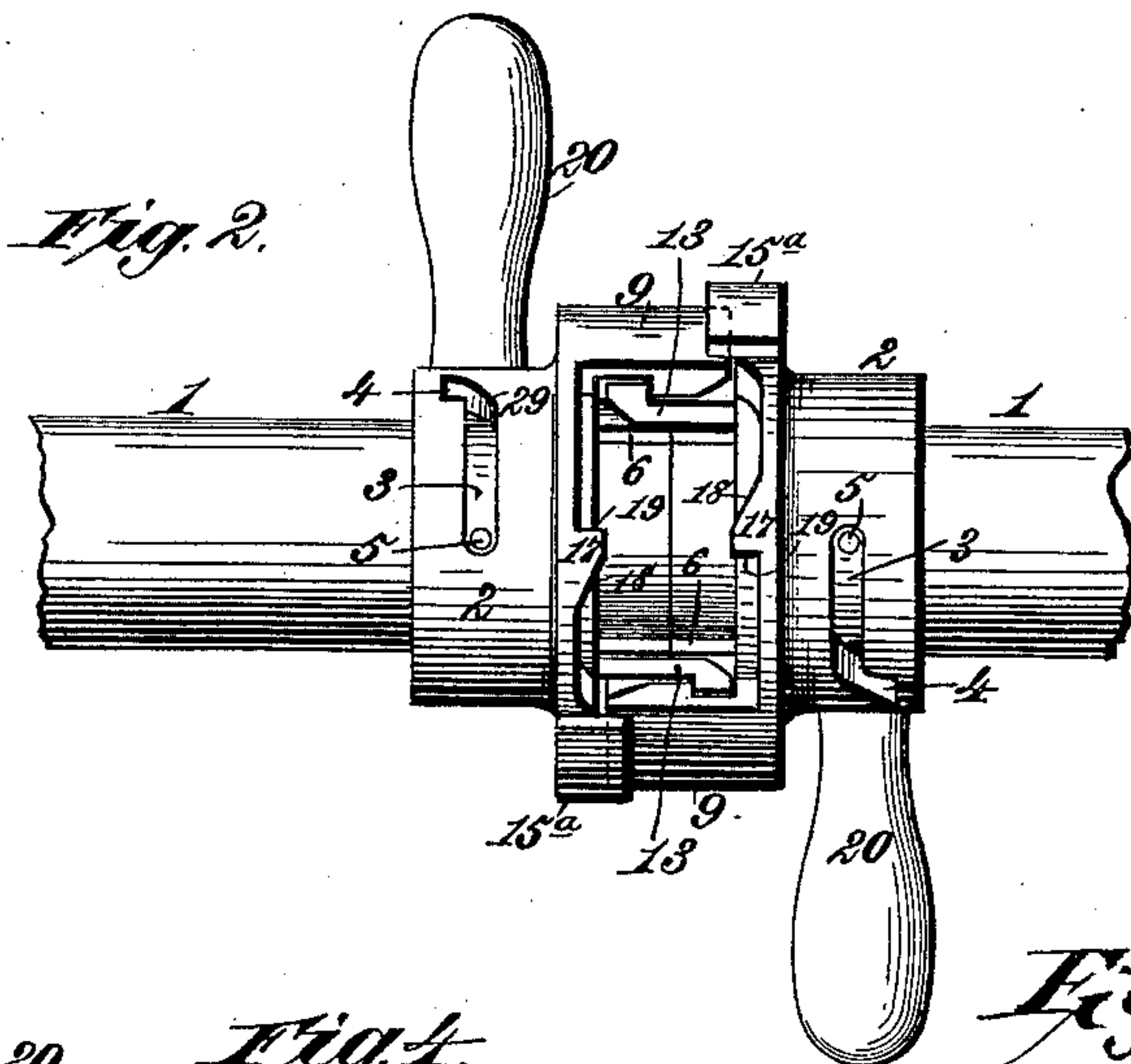
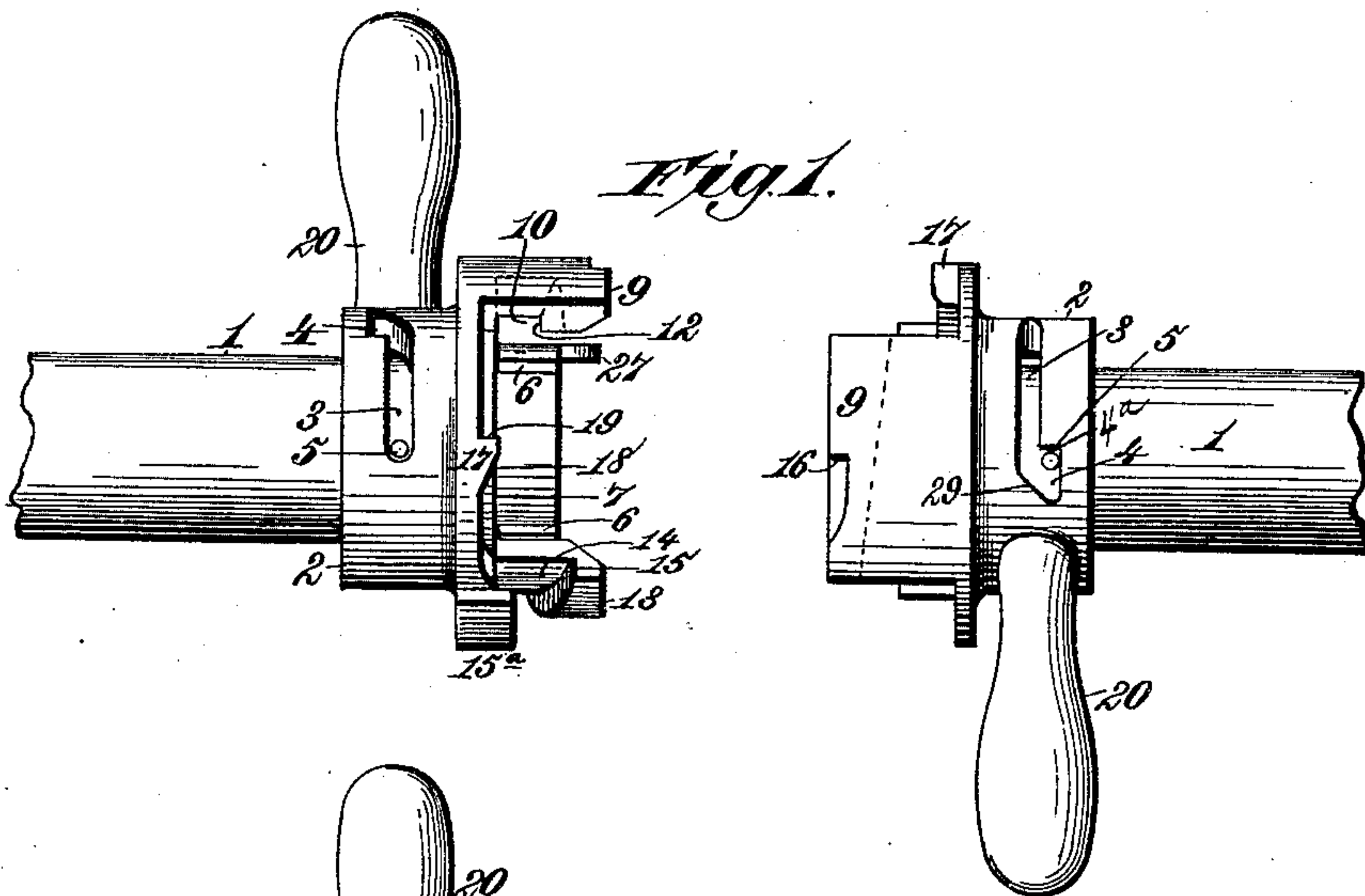
(Model.)

R. I. HAMPTON.

COUPLING FOR STEAM PIPES OF RAILWAY CARS.

No. 410,889.

Patented Sept. 10, 1889.



Witnesses:  
*Robert G. Pratt.*  
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*Atty.*



# UNITED STATES PATENT OFFICE.

ROBERT I. HAMPTON, OF ATHENS, GEORGIA.

## COUPLING FOR STEAM-PIPES OF RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 410,889, dated September 10, 1889.

Application filed May 4, 1889. Serial No. 309,650. (Model.)

*To all whom it may concern:*

Be it known that I, ROBERT I. HAMPTON, a citizen of the United States, residing at Athens, in the county of Clarke and State of Georgia, have invented new and useful Improvements in Couplings for Steam-Pipes of Railway-Cars, of which the following is a specification.

My present invention relates to certain improvements in the couplings used to connect the steam-pipes employed upon railway-cars and other conveyances.

It is the purpose of my invention to provide simple means whereby the communicating extremities of the steam-pipes may be readily and closely coupled and instantaneously uncoupled, and whereby also the coupling and uncoupling may be effected by the partial rotation of either sleeve independently, the parts being so constructed that either sleeve may be set and held in position to enable the cars to pull apart and separate the coupling-sections of pipe, whereby the effort frequently required on the part of the brakeman or other employé, especially in cases where the couplings stick from any cause, is wholly avoided.

It is my further purpose to provide simple means for insulating the steam-passages within the coupling-sections to avoid condensation of steam, and provide a plurality of steam and other passages for the heating medium and for the air supplying the brakes and signaling apparatus.

The invention consists in the several novel features of invention and new combinations of parts hereinafter fully set forth, and then definitely pointed out in the claims following this specification.

Referring to the accompanying drawings, Figure 1 is a side elevation showing my invention, the couplings being represented as separated. Fig. 2 is a plan view showing the couplings locked. Fig. 3 is a bottom plan view of one of the couplings. Fig. 4 is a central section of Fig. 2. Fig. 5 is a front elevation of one of the couplings. Fig. 6 is a transverse section of one of the pipe-sections.

In the said drawings, the reference-numeral 1 denotes the coupling of the heating-pipes, which are connected to the cars and to the train-pipes in any suitable manner. Upon each coupling-section at its end is swiveled a

sleeve 2, having a slot 3, provided with a bayonet-recess 4, in which lies a pin 5, projecting from the outside of the pipe-sections 1. Each of the latter is provided with two segmental shoulders or projections 6, which lie against the flat face 7 of the swiveled sleeve, but which may be partly withdrawn into pockets or recesses 8 therein when the said sleeve is turned sufficiently to bring the pin 5 into the recess 4. Projecting from the periphery of each sleeve is a flange 9, overhanging the coupling end of the pipe-section 1 and provided with an interior channel 10, cut upon a curve struck from the axis of the pipe and having its outer wall 12 formed at an angle or pitch with said axis. This flange extends, preferably, over about forty or forty-five degrees of arc, though it may vary from this dimension. Upon the opposite side of the sleeve is formed a flange 13, of somewhat less extent, which projects from the flat face 7 of the sleeve at a point just outside the opening admitting the end of the pipe-section 1. This flange is curved upon a line struck from the same center, and upon its outer face is formed a channel 14, the outer wall 15 of said channel being cut upon a pitch parallel with that of the outer wall 12 of the channel 10. Overhanging this exterior channel 14 is a narrow flange 15<sup>a</sup>, projecting from the periphery of the sleeve. In the outer edge of the flange 9 on each sleeve is cut a notch having a square shoulder 16 so formed that when in position for coupling the notches are in opposition. Projecting from the face of the sleeve at its periphery is a lug 17, having an inclined face 18 and a square shoulder 19, the latter facing in the direction opposite to that of the shoulder 16 in the flange 9. Upon each sleeve is mounted a lever or handle 20, projecting radially therefrom. In all the particulars thus far described the two coupling-sections are counterparts one of another.

The coupling-sections 1 are substantially cylindrical and may be formed of any suitable material, metal being preferable. Within each tubular section is formed a substantially central dual passage for the heating medium, said passage being composed of two channels 21, divided by a central diaphragm 22, and serving as the passage-way for the live and



dead steam carried by the train-pipes. The elliptical or oval wall 23 of this dual passage lies wholly within an insulating-space 24, partly inclosed by diaphragm-walls 25 and partly by the walls of the coupling-section, leaving a passage-way 26 both above and below the channels for the heating medium. This insulating-space may be filled with nothing but dead air; but I prefer to use a filling of asbestos or some other suitable material, which may be cast in the coupling-pipes as a core.

The operation of the parts described is as follows: The pipe-sections, being prevented from turning upon their own axes, are so mounted that the guide-lug 27 and the recess 28 for the corresponding guide-lug on the coupling-section lie in substantially a horizontal plane. If with the construction already set forth the parts are now coupled together, it will be seen that the radial pins 5, which project upward from the coupling-pipes, lie in the ends of the circumferential slots 3 most remote from the recess 4, the levers or handles being turned into a downwardly-inclined position upon opposite sides of the pipe. If, now, one of said handles be turned upward, the other remaining stationary, the pin 5 on the section corresponding will be thrown into the recess 4 of the rotated sleeve by its contact with an inclined wall 29 of the slot so placed that the slight forward movement it imparts to the sleeve turned will lock the notch or shoulder 16 with the square shoulder 19 on the lug 17, thereby holding the sleeve in such position that the pipes may be easily drawn apart. As the coupling sections separate, the disengagement of the lug 17 and the shoulder 16 releases the section which has been partly rotated, allowing it to drop or turn by the gravity of its handle. This movement, which is very slight, is permitted in order to bring the parts in position to couple automatically, or, in other words, to bring the lug 17 into such position that it will abut against the edge of the flange 9 on the opposite section when the parts are brought together, and thereby throw the pin 5 out of the recess 4 and into the slot 3. In order to hold the coupling-section in position to accomplish this result, the recess 4 is enlarged and a square shoulder 4<sup>a</sup> is formed opposite the inclined wall 29 of the slot, which shoulder abuts against the pin when the other coupling-section is withdrawn and holds the partly-rotated section in such position that when the other section is engaged the lug 17 will strike the face of the sleeve and push the square shoulder off the

pin, allowing the section to turn and effect the coupling engagement. As the coupling portions are prevented from turning on their own axes, they always present their ends in proper relative position to enable the guide-lugs 27 on each to enter the seats or sockets 28 on the other. This locking is automatic by the weight of the rotating lever. In uncoupling, either sleeve is rotated in the manner set forth until the locking engagement of the shoulder 19 on the lug 17 is effected with the shoulder 16, when the parts may be left until the cars draw apart, the couplings separating with perfect ease.

What I claim is—

1. In a pipe-coupling for the steam-pipes of railway-cars, a coupling-section provided with segmental shoulders on opposite sides, a sleeve having recesses or pockets permitting the entrance of said shoulders, each section having a pin running in a slot in its sleeve, the latter having a bayonet-recess at one end with an inclined wall to direct the pin therein, and each sleeve being provided with an outer and inner flange projecting from the flat face of the sleeve, said flanges having interior and exterior channels, the forward walls thereof cut upon the same pitch, substantially as described.

2. In a pipe-coupling for the steam-pipes of railway-cars, the combination, with each coupling-section provided with segmental shoulders, one having a guide-lug and the other a pocket or seat, of a sleeve having a limited rotary movement on said section by a pin running in a slot in the sleeve and having a bayonet-recess at one end provided with an inclined wall to guide the pin therein, each sleeve having two flanges located at different distances from the center, the outer flange having an interior and the inner flanges an exterior channel, with the outer walls cut at a similar pitch, and a catch-lug being formed on the flat face of the sleeve between said flanges, adapted to engage a notch on the exterior flange, substantially as described.

3. In a coupling for the steam-pipes of railway-cars, a coupling-pipe section having an interior divided steamway wholly surrounded by an insulating-space packed with any non-conducting material, an air-passage being provided on each side of the dual steamway, substantially as described.

In testimony whereof I have affixed my signature in presence of two witnesses.

ROBERT I. HAMPTON.

Witnesses:

A. L. HULL,  
G. A. MELL.