F. W. CARLSON.

CLOSET CONNECTION.

APPLICATION FILED JUNE 29, 1912.

**1,044,347.**

**Patented Nov. 12, 1912.**

2 SHEETS—SHEET 1.

Fig 1

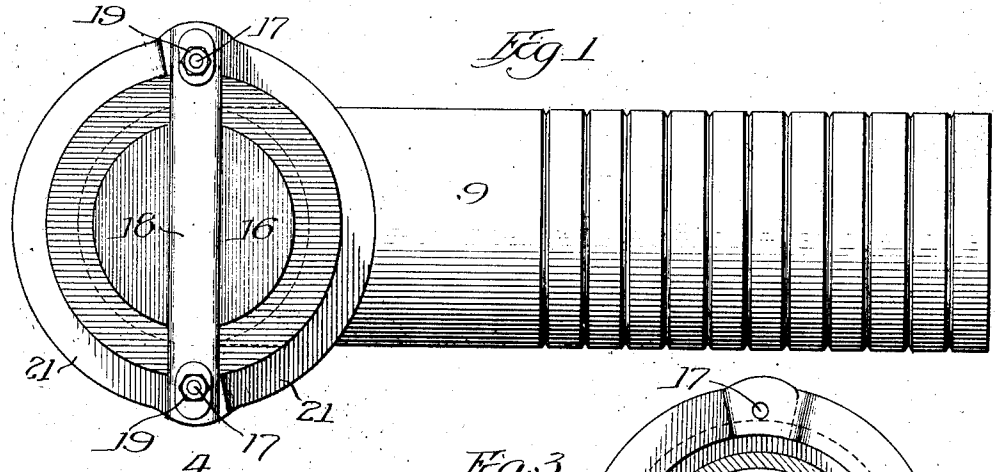



Fig 3

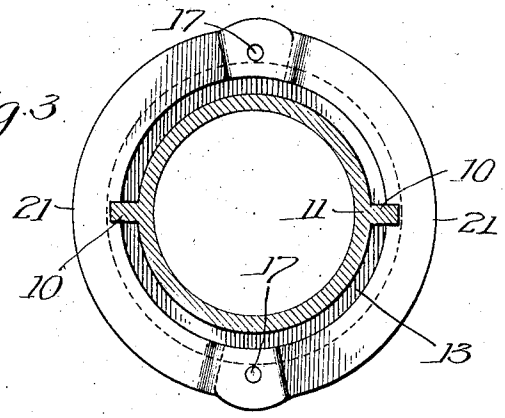



Fig 2

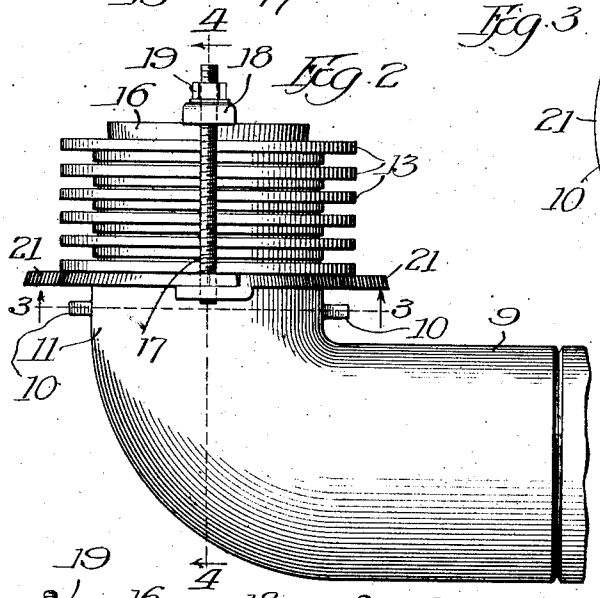



Fig 5

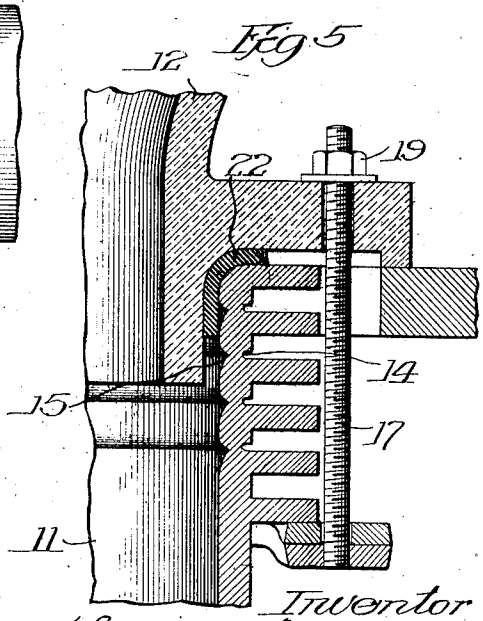
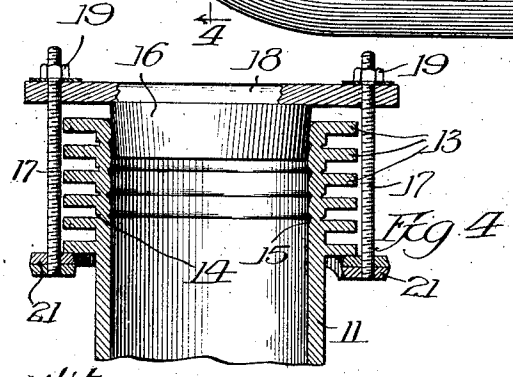



Fig 4

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2 SHEETS—SHEET 2.

Fig. 6.

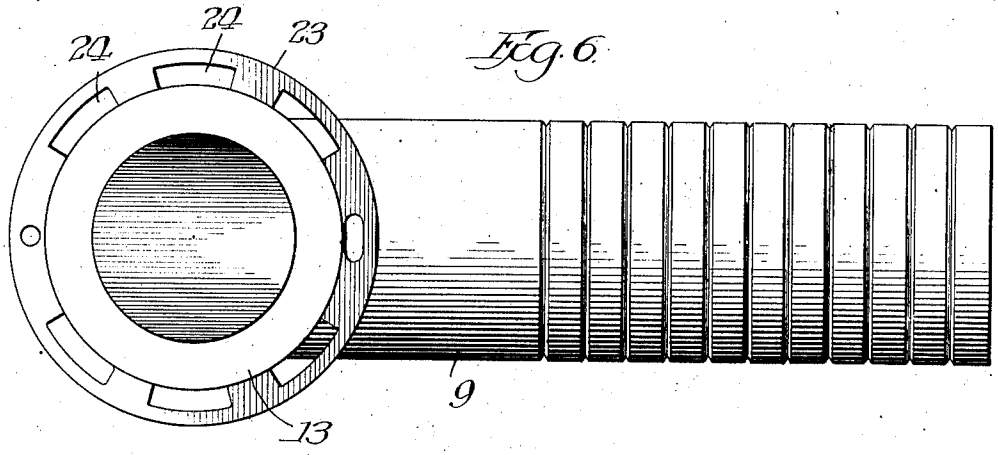



Fig. 7.

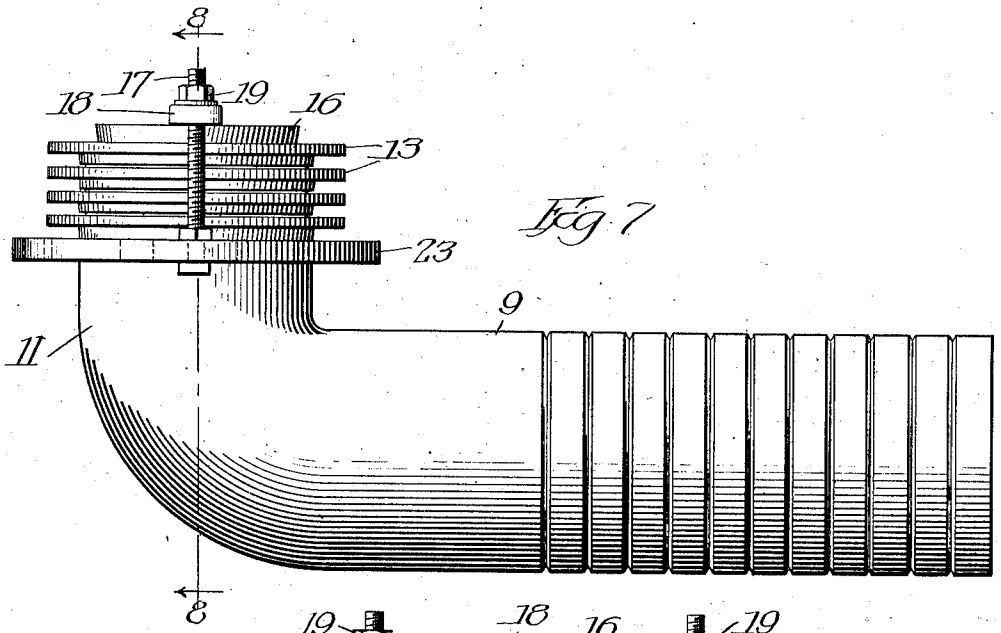
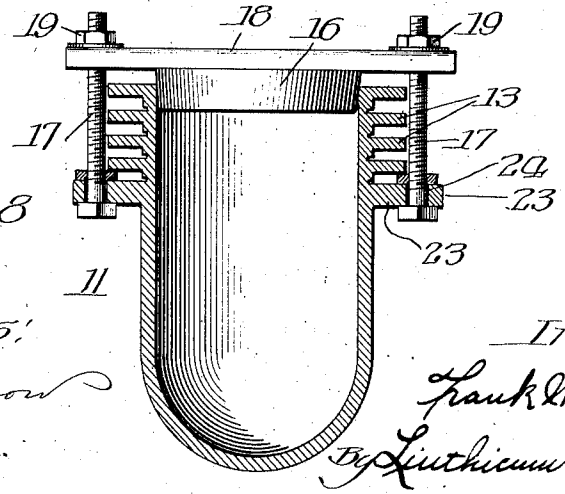



Fig. 8.

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# UNITED STATES PATENT OFFICE.

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## CLOSET CONNECTION.

1,044,347. Specification of Letters Patent. Patented Nov. 12, 1912.

Application filed June 29, 1912. Serial No. 706,619.

*To all whom it may concern:*

Be it known that I, FRANK W. CARLSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Closet Connections, of which the following is a specification.

This invention relates to closet bends and connections and has for one of its objects the provision of a bend equipped with a temporary closure to be used during the preliminary water test and then discarded.

Another object is the provision of means for retaining said closure in position so that the closure can be positioned at the factory and the device shipped intact ready for installation.

Still another object is to utilize the means for retaining the temporary closure in position to establish a permanent connection between the bend and a closet bowl and, also, to so construct this connecting means that it may be movable angularly of the bend to permit the bowl to be set at any desired angle.

Other objects and advantages of the invention will be apparent as the same is better understood by reference to the following description when considered in connection with the accompanying drawings.

On the drawings—Figure 1 is a top plan view of a closet bend embodying my invention; Fig. 2 is a side elevation; Fig. 3 is a sectional view taken on the line 3—3 of Fig. 2; Fig. 4 is a sectional view taken on the line 4—4 of Fig. 2; Fig. 5 is an enlarged fragmentary view showing the manner of effecting a permanent connection between a closet bowl and my improved bend; Fig. 6 is a plan view of a modified form of my invention; Fig. 7 is a side elevation of the bend shown in Fig. 6; and Fig. 8 is a sectional view taken on the line 8—8 of Fig. 7.

Referring to the drawings, (Figs. 1–5) it will be observed that the bend is cast in one piece and comprises a horizontal portion 9 adapted to be connected to a drainage system and an upright portion 11 adapted for connection with a closet bowl (Fig. 5). The upright portion 11 of the bend is equipped with a plurality of peripheral flanges 13 spaced apart at suitable intervals, the material of the bend between the flanges being weakened by grooving internally and externally, as indicated at 14 and 15, or otherwise, so that this portion may be readily broken off to any desired length by means of a hammer and chisel. The flanges extend outside the perimeter of the bend in substantially parallel relation, and each flange has a flat upper face of substantial width adapted to coöperate with an opposed face of a closet bowl to form a tight connection therewith. For the purpose of temporarily closing the upright end of the bend during the water test, I employ a temporary closure 16 preferably consisting of a tapered plug made of soft close-grained wood, poplar wood being well adapted for this purpose. This plug is inserted in the end of the bend before installation and preferably before shipment from the factory and serves as a closure for the bend during the water test and, also, prevents objects and material from dropping into the bend before the bowl is set. To retain this plug in position against accidental displacement during handling of the pipe and while the water test is being made, I utilize the bolts 17 which are ordinarily employed for effecting the connection between a bend and a closet bowl. These bolts are attached at their lower ends to a ring 21 which, in the modifications shown in Figs. 1 to 5, loosely encircles the bend beneath the lowermost peripheral flange 13. This ring is preferably made in sections so that when a bend having lateral branches is employed, which would prohibit the slipping of the ring in position from the drainage end of the bend, the ring may be placed on the bend before its free ends are connected. In actual practice the bolts preferably pass loosely through the upper one of each overlapping ring section end and are threaded into the lower one as shown in Fig. 5. Obviously, however, the bolts may be riveted into the lower ring sections, if preferred, or headed bolts or locking nuts may be employed. A clamping bar 8 is disposed over the upwardly projecting ends of the bolts 17 and is adapted to retain the plug 16 in position when the nuts 19 are screwed down on the bolts. It will be manifest that when the parts are thus assembled the ring 21 is drawn against the lower peripheral flange 13 of the bend and the clamping bar is forced tightly into engagement with the plug, so that the plug is fixedly held in position in the end of the bend. When it becomes desirable to set the closet bowl the

nuts 19 are removed and the clamping bar is taken off. If the bend projects too far above the floor it may be shortened by breaking it off between the desired flanges, in which case the plug 16 may be removed with the broken off section of pipe. If the bend is to be left at its original length the plug may be simply removed from the end of the pipe whereupon the closet bowl may be positioned, the usual gasket 22 being preferably employed to effect a tight joint. Since the ring 21 fits loosely around the bend it may be turned angularly of the bend to dispose the bolts 17 in any desired position, thereby permitting the closet bowl to be set at any desired angle. This is of material advantage over bends previously employed to which the bolts were fixedly secured, so that no angular adjustment could be effected and, as a result, the bowl could only be set in certain fixed positions. In order to prevent the ring 21 from dropping down on the bend so as to lower the bolts 17 into an inaccessible position after the bar 18 has been removed, I provide a plurality of lugs 10 spaced beneath the lowermost flange 13 sufficiently to permit any desired angular adjustment of the ring 21 but adapted to prevent undue dropping or displacement of the ring. After the bowl has been set over the ends of the bolts 17 the nuts 19 are employed to firmly and permanently clamp the bend and bowl together, thus effecting a strong and durable connection with a minimum amount of labor.

In the form of the invention disclosed in Figs. 6, 7 and 8, a ring or flange 23 is cast integral with the bend beneath the flanges 13. This ring is provided with a plurality of elongated slots 24 through which the bolts 17 are inserted. These slots permit the bolts to be adjusted angularly of the bend so that the closet bowl may be set at any desired angle. It will be manifest that the integral ring 23 with the elongated slots permits angular adjustment of the fastening bolts in the same manner that the adjustable ring 21 does, although perhaps with not such a fine degree of accuracy. If it should be found in any particular installation that the proper setting of the closet bowl would not bring the bolt holes in the closet flange in alinement with any of the slots 24, then the ring 21 might be employed, in which instance, the ring would be secured in position above the stationary ring 23 and beneath one of the flanges 13. In actual practice, however, it will very rarely happen that some of the slots 24 will not aline with the openings in the bowl flange so that the bolts 17 may connect the bowl directly to the stationary ring 23.

It is believed that my invention will be understood from the foregoing without further description and, it will be obvious, that various changes in the mechanical details of construction may be resorted to without departing from the spirit of the invention or sacrificing any of the material advantages thereof.

I claim:

1. A closet bend or connection provided at its inlet end with bowl connecting means, and a removable closure for said inlet end held in place by the bowl connecting means.

2. A closet bend or connection provided at its inlet end with bowl connecting means adjustable peripherally around the bend, and a removable closure for said inlet end held in place by the bowl connecting means.

3. A closet bend or connection provided with bolts and nuts for connecting the bend to a bowl, a removable closure for the inlet end of the bend, and a cross bar associated with the closure and the bolts for holding the closure in place.

4. A closet bend or connection provided with an external annular flange around the inlet portion thereof, bowl connecting means associated with the flange and adjustable peripherally thereabout, and a removable closure for the inlet end of the bend held in place by the bowl connecting means.

5. A closet bend or connection provided with an external annular flange around the inlet portion thereof, a ring engaging the under side of said flange and adjustable peripherally thereabout, bowl connecting means carried by the ring and projecting beyond the inlet end of the bend, and a removable closure for the inlet end of the bend held in place by the bowl connecting means.

6. A closet bend or connection provided with an external shoulder on the inlet end portion thereof, a ring engaging beneath the shoulder, bowl-connecting means carried by the ring, and a removable closure for the inlet end of the bend held in place by the bowl-connecting means.

7. A closet bend or connection provided with an external shoulder on the inlet end portion thereof, a ring engaging beneath the shoulder, the bend having an external shoulder beneath the ring to limit downward movement thereof, bowl connecting means carried by the ring, and a closure for the inlet end of the bend held in place by the bowl-connecting means.

8. A closet bend or connection provided with an external shoulder on the inlet portion thereof, a split ring embracing the bend beneath the shoulder, the ends of the ring members being overlapped, bowl connecting bolts extending through the overlapped portions of the ring members and projecting beyond the inner end of the bend, nuts for the outer ends of the bolts, a removable closure for the inlet end of the bend, and a cross

bar extending across the closure and receiving the bolts therethrough.

9. A closet bend or connection provided at its inlet portion with a series of annular weakened portions to permit breaking off of the bend, bowl-connecting means associated with the bend below the lowermost weakened portion and projecting beyond the inlet end of the bend, and a removable closure for the inlet end of the bend held in place by the bowl-connecting means.

10. The combination of a closet bend provided with a plurality of peripheral flanges, said bend being grooved between a pair of flanges to facilitate breakage of the bend along the grooves whereby the bend may be reduced to the required length, a closet bowl, and means for effecting a connection between the bowl and said bend, said means being adjustable angularly of the bend to permit setting of the bowl at any desired angle and capable of adaptation to the length of the broken off bend.

11. The combination of a closet bend provided adjacent one end with a plurality of peripheral flanges spaced apart, said bend being weakened between the flanges to facilitate shortening of the bend to the required length whereby to present a flange at the end of the bend and at the proper height to form a connection with an opposing face of a closet bowl, a temporary closure disposed in the end of said bend, a bar engaging said closure, and a plurality of bolts clamping said bar against the closure to retain the same in position, said bolts being adapted for attachment to a closet bowl upon removal of the bar and angularly adjustable relatively to the bend to permit setting of the closet bowl at any desired angle.

12. The combination of a closet bend provided adjacent one end with a plurality of peripheral flanges spaced apart, said bend being weakened between the flanges to facilitate shortening of the bend to the required length whereby to present a flange at the end of the bend and at the proper height to form a connection with an opposing face of a closet bend, a temporary closure disposed in the end of said bend, a bar engaging said closure, and a plurality of bolts clamping said bar against the closure to retain the same in position, said bolts being adapted for attachment to a closet bowl upon removal of the bar and threaded to a point adjacent the lowermost weakened portion of the bend whereby the closet bowl may be clamped against any of the said flanges presented at the end of the bend when the length of the bend has been reduced to the required amount.

13. The combination of a closet bend provided adjacent one end with a plurality of peripheral flanges spaced apart and weakened between the flanges to facilitate shortening of the bend to the required length, whereby to present a flange at the end of the bend and at the proper height to form a connection with an opposing face of a closet bowl, a plurality of bolts extending upwardly from the lowermost flange for attachment to a closet bowl, said bolts being adjustably connected with said lowermost flange to permit the bowl to be set at any desired angle and threaded to a point opposite the lowermost weakened portion of the bend to clamp the bowl against any flange presented at the end of the bend when the bend has been reduced to the proper height.

14. The combination of a closet bend having at one end a plurality of peripheral flanges spaced apart, the bend being weakened between adjacent flanges so that it may be readily broken off to any desired length, a ring loosely embracing the bend beneath a flange, a plurality of bolts attached to said ring and extending upwardly above the end of the bend outside the perimeter of said flanges, a closet bowl having a face adapted to coöperate with the outer face of a flange presented at the end of the bend, and nuts threaded on said bolts to clamp the closet bowl and bend together, said bolts being threaded a sufficient distance from their upper ends to clamp the bowl against any flange which may be presented at the end of the bend.

15. A closet bend or connection provided at its inlet portion with a series of peripheral flanges extending outside the perimeter of the bend in substantially parallel relation and spaced apart to permit of the bend being cut off between adjacent flanges to reduce the length of the bend, each flange having a flat upper face of substantial width adapted to coöperate with an opposed face of a closet bowl to form a tight connection, bowl-connecting means carried by the bend for connecting the bend to a closet bowl at any of the flanges, and a removable closure for the inlet end of the bend held in place by the bowl-connecting means.

FRANK W. CARLSON.

Witnesses:
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