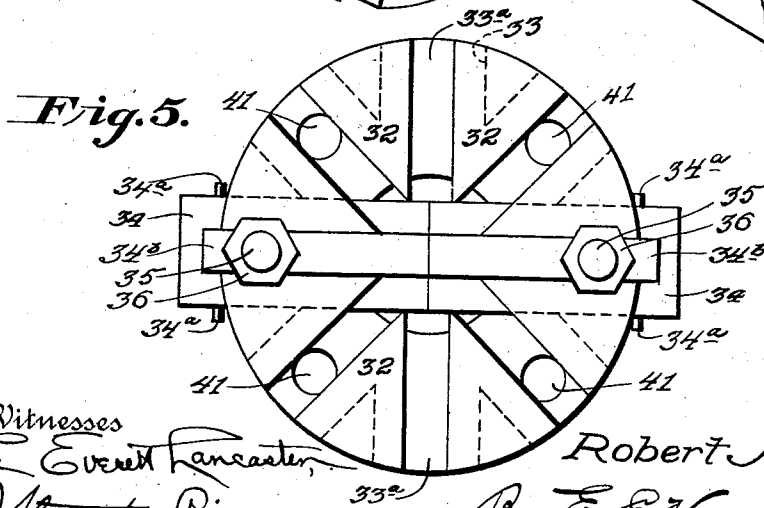
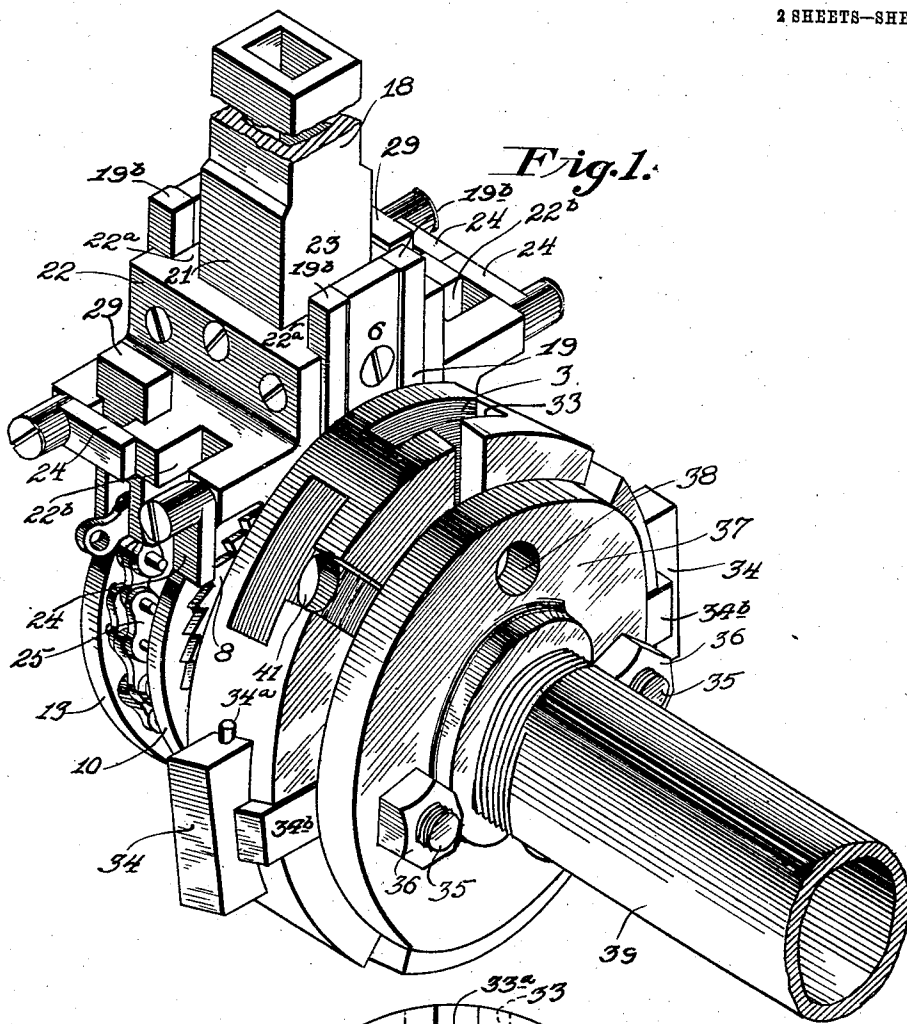


R. JOHNSON.
 DEVICE FOR SETTING AND REMOVING FLANGES.
 APPLICATION FILED JULY 15, 1909.

968,161.

Patented Aug. 23, 1910.

2 SHEETS—SHEET 1.



Witnesses
 Everett Lancaster,
 Stewart Rice.

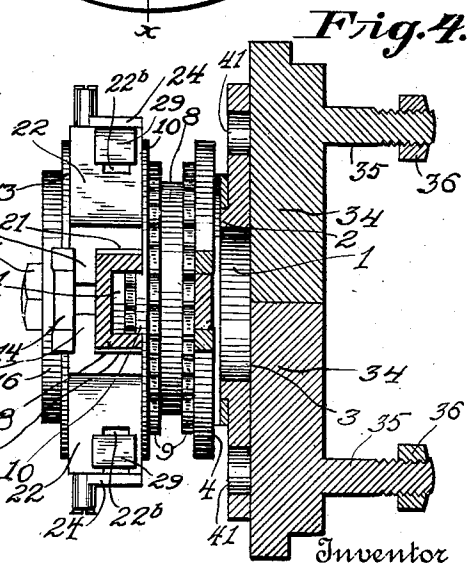
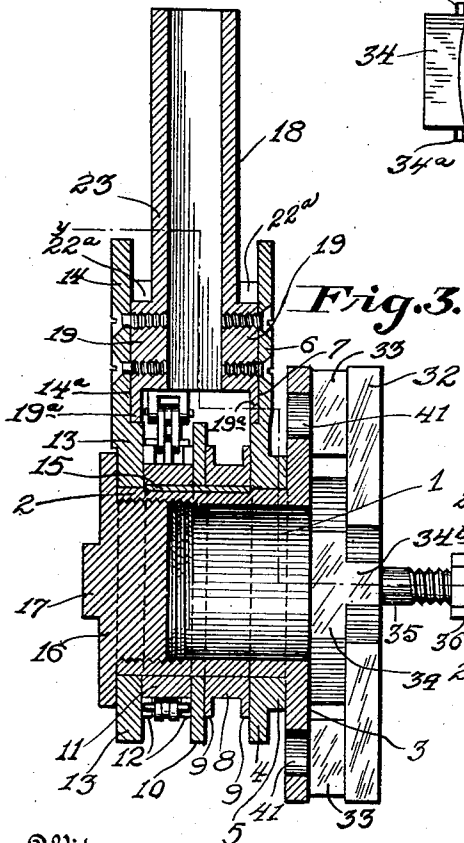
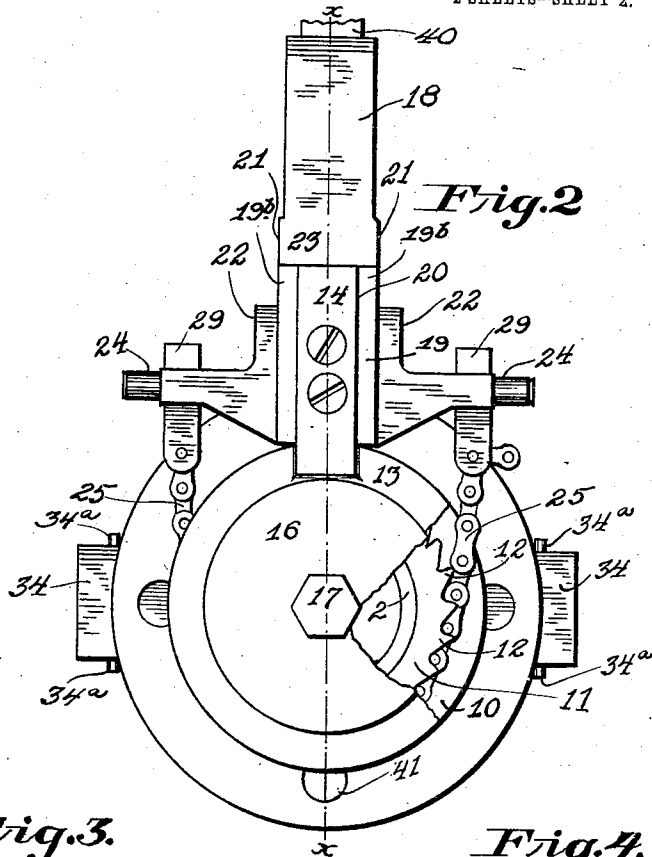
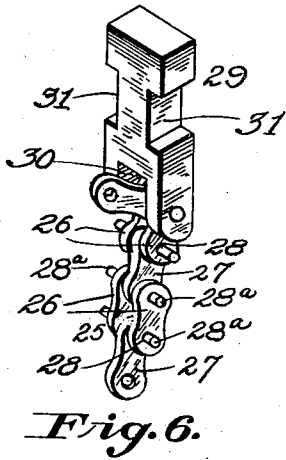
Inventor
 Robert Johnson,
 By E. E. Vrooman,
 his Attorney.

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2 SHEETS—SHEET 2.



Witnesses

Everett Lancaster
 J. Stewart Rice.

Robert Johnson,

By E. C. Brown
 his Attorney.

UNITED STATES PATENT OFFICE.

ROBERT JOHNSON, OF BROWN STATION, NEW YORK.

DEVICE FOR SETTING AND REMOVING FLANGES.

968,161.

Specification of Letters Patent.

Patented Aug. 23, 1910.

Application filed July 15, 1909. Serial No. 507,850.

To all whom it may concern:

Be it known that I, ROBERT JOHNSON, a citizen of the United States, residing at Brown Station, in the county of Ulster and State of New York, have invented certain new and useful Improvements in Devices for Setting and Removing Flanges, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to improvements in devices for setting and removing flanges, and has for its object to provide such a device by means of which a flange can be readily threaded on a pipe or removed therefrom.

Other objects and advantages of my invention will appear in the course of the following specification.

In the accompanying drawings: Figure 1 is a perspective view of my improved device for setting and removing flanges, showing a flange being placed on the end of a pipe. Fig. 2 is a rear view of the device with a part thereof broken away. Fig. 3 is a longitudinal section on the line $x-x$ of Fig. 2. Fig. 4 is a top plan view of the device, partly in section, the line $y-y$ on Fig. 3 showing where the section is taken. Fig. 5 is a plan view of the front of the device. Fig. 6 is a perspective view of a portion of the chain with the key, or attaching means, at one end thereof.

Referring to the drawings, which illustrate the preferred embodiment of my invention, 1 designates the body of the tool, which comprises a hollow, cylindrical portion or bearing 2, and a, preferably, circular work-holding face 3. Mounted to rotate freely on the bearing 2 is a circular collar 4, provided with an annular rib, or projection 5, which bears against the inner side of the work-holding face 3. Also carried by said collar 4 is an outwardly-extending oblong lug or extension 6, which is provided with a right angular cut-out portion 7 for a purpose to be hereinafter explained. Mounted on the bearing 2 and next to the collar 4 is a sprocket wheel 8, provided at each edge with a circular row of teeth 9. A spacing member 10 is mounted on said bearing 2 next to the sprocket wheel 8, and positioned on the other side of the spacing member is a second sprocket wheel 11 also provided on each edge with a circular row of teeth 12. As shown, the spacing member

10 preferably extends above the teeth on the sprocket wheels 8 and 11. It will be noted that the sprocket teeth 9, 9, of the sprocket wheel 8 and the sprocket teeth 12, 12, of the sprocket wheel 11 are beveled or inclined in different directions, as shown in the drawings, and for a purpose to be hereinafter described. Mounted freely on the bearing 2, and next to the sprocket wheel 11, is a collar 13, provided with an outwardly extending projection or lug 14, which is provided with a right-angular cut-out portion 14^a. The sprocket wheels 8 and 11 and the spacing member 10 are secured against independent rotation on the bearing 2 by means of a suitable spline or key 15, which is clearly shown in Fig. 3 of the drawing. Adapted to hold the collars 4 and 13, the sprocket wheels 8 and 11 and the spacing member 10 on the cylindrical bearing 2 is an end member 16, which is suitably threaded, and is adapted to be screwed into the interiorly threaded end of the bearing 2. To facilitate the positioning and removal of the end member 16, it is provided with a hexagonal nut 17.

The device is furnished with a suitable socketed handle 18, which, at its lower end and at opposite sides, is provided with enlargements or outstanding portions 19, 19. The enlargements 19, 19, are each provided with a depending portion 19^a and extending through each enlargement and its depending portion is a depression or groove 20, which extends longitudinally of the handle 18. The outwardly extending lugs 6 and 14, of the collars 4 and 13 mounted on the bearing 2 fit and are secured one in each depression 20 of the enlargements 19, 19, with the bottoms of the depending portions 19^a, contiguous their respective depressions, resting on the bottoms of the cut-out portions 7 and 14^a of their respective outwardly extending lugs, as best seen in Fig. 3. By this arrangement the handle 18 is suitably spaced from the sprocket wheels 8 and 11 and the spacer 10 mounted on the bearing 2. At their upper ends, one at each side, the enlargements 19, 19, are each provided with upstanding extensions or lugs 19^b, 19^b, which are spaced from the stem 23 of the handle 18, as shown.

Suitably secured to the sides 21, 21, of the handle are angular supporting members 22, 22, each provided with a pair of lugs 22^a, 22^a, which enter apertures formed between the upstanding extensions 19^b of the

enlargements 19, 19, and the stem 23 of the handle. Each of the angular supporting members 22, 22, is provided with a pair of oblong apertures 22^b, 22^b, and secured one
 5 on either side of the apertures 22^b, 22^b, are pivoted gates or locking members 24, 24, which, when swung to the horizontal, are adapted to close the entrances to the apertures.

10 Adapted to be positioned around either the sprocket wheel 8 or the sprocket wheel 11 is a sprocket chain 25. The chain 25 consists of a series of double links 26 and a series of single links 27, having each of
 15 their ends pivoted between the double links by a series of pins 28, the ends of each pin projecting beyond the outer surfaces of the links and forming studs 28^a, 28^a. This chain is suitably secured at each end to a
 20 key or attaching member 29. The keys 29, of which there are two, one at each end of the chain, are, preferably, oblong in shape with their lower ends bifurcated, as at 30, and in the bifurcations one end of the chain
 25 25 is pivoted. The central portions of the keys 29, 29, are provided with oppositely disposed rectangular cut-out portions 31, 31, as shown. The sprocket chain is adapted to be placed around either the sprocket wheel
 30 8, or the sprocket wheel 11, with the studs 28^a engaging the teeth thereof, accordingly as to whether a flange is to be placed on a pipe or removed therefrom. As is apparent from the drawing, the sprocket chain 25
 35 can be readily removed from one sprocket wheel and placed on the other by placing the keys 29 in the desired apertures 22^b, which apertures are located over the sprocket wheels 8 and 11.

40 The circular work-holding face 3 of my device is provided with a plurality of outwardly-extending wedge shaped members 32, which are suitably under cut on each side as at 33, 33. As shown, the outwardly extending wedge shaped members 32 are
 45 spaced apart leaving an opening 33^a between them. The ends of the wedge-shaped members 32 terminate near the circumference of the bore of the bearing 2 so as not to close the same. Slidably mounted between the wedge-shaped members 32 are a
 50 pair of slides 34, 34, which are provided near their outer ends with stops 34^a, 34^a, which limit the distance the slides can be moved inwardly. Each of the slides 34, centrally of their upper or outer face, is provided with an outstanding oblong lug or rib
 55 34^b, which is adapted to extend into the opening 33^a between two of the wedge shaped members 32, and each lug 34^b near
 60 its outer end, is provided with a threaded projection 35 upon which is mounted a nut 36.

65 The slides 34, 34, can be readily adjusted to the size flange that it is desired to place on a pipe. As shown in Fig. 1 of the draw-

ing, a flange 37, provided with the usual bolt holes 38 is first threaded a few turns on a fixedly supported pipe 39 when the device is attached to and supported by the flange by passing the bolts 35, 35, through the bolt
 70 holes 38, 38, of the flange and tightening the nuts 36. It follows that by rotating the device to the right by means of an auxiliary handle 40 secured in the socket in the stem 23 of the handle 18, that the flange can be
 75 screwed on the end of the pipe. To remove a flange from a pipe, it is simply necessary to place the sprocket chain in mesh with the other sprocket wheel and turn the handle to the left.

80 From the foregoing, it will be seen that I have produced a device by means of which flanges of various sizes can be easily and expeditiously secured to the ends of pipes and as readily removed therefrom. I have
 85 provided the work-holding face 3 of the device with a plurality of apertures 41 through which bolts (not shown) can be passed when the bolt holes in the flange and the apertures 41 register, and, of course, under these
 90 circumstances the slides can be dispensed with.

What I claim is:

1. In a device of the character described, a work holder, two sets of teeth carried by
 95 said work holder, said sets of teeth being inclined in opposite directions, a handle supported on said work holder and free to turn thereon, a sprocket chain adapted to engage
 100 a selected set of said teeth and be attached to said handle, whereby when said handle is rotated said work holder will also be rotated.

2. In a device of the character described, a work holder, a plurality of sprocket wheels
 105 fixed on said work holder, the teeth of said sprocket wheels being inclined in opposite directions, a handle movably mounted on said work holder, and a sprocket chain attached to said handle, said sprocket chain
 110 being adapted to engage a selected sprocket wheel to rotate said work holder in the desired direction.

3. In a device of the character described, a work holder, a plurality of sprocket wheels
 115 fixed on said work holder, the teeth of said sprocket wheels being inclined in opposite directions, a handle movably mounted on said work holder, a sprocket chain adapted to engage a selected sprocket wheel to rotate said work holder in the desired direction, and means for detachably connecting
 120 said sprocket chain to said handle.

4. In a device of the character described, a work holder, a spacer mounted on said
 125 work holder, a sprocket wheel mounted on each side of said spacer, a key adapted to lock said spacer, sprocket wheels and work holder against independent rotation, a handle movably supported on said work holder,
 130

and adjustable means carried by said handle and adapted to engage a selected one of said sprocket wheels to rotate said work holder in the desired direction.

5 5. In a device of the character described, a work holder, spaced rows of oppositely disposed teeth whereby a groove is formed between said rows of oppositely-disposed teeth, a sprocket chain adapted to run in 10 said groove, and projections carried by said sprocket chain and extending outside of the planes of the sides of said sprocket chain, said projections being adapted to engage said teeth to rotate said work holder.

15 6. In a device of the character described, a work holder, supports mounted on said work holder, said supports being provided with cut-out portions, a handle adapted to be supported between said supports and to 20 rest on the bottoms of said cut-out portions, and means actuated by said handle for rotating said work holder.

25 7. In a device of the character described, a work holder, supports mounted on said work holder, said supports being provided

with cut-out portions, a handle provided with grooved enlargements, the bottoms of said enlargements being adapted to rest on the bottoms of the cut-out portions of said supports, and means actuated by said handle 30 for rotating said work holder.

8. In a device of the character described, a work holder, a handle provided with a stem carried by said work holder, enlargements carried by said handle, upstanding 35 extensions carried by said enlargements and spaced from said stem, supports secured to opposite sides of said handle, lugs carried by said supports, said lugs being adapted to project into the apertures between the sides 40 of the stem of said handle and the upstanding extensions of said enlargements, and means connectible to said supports adapted to rotate said work holder.

In testimony whereof I hereunto affix my 45 signature in presence of two witnesses.

ROBERT JOHNSON.

Witnesses:

E. G. HINSGERN,

E. H. GATHRIGHT.