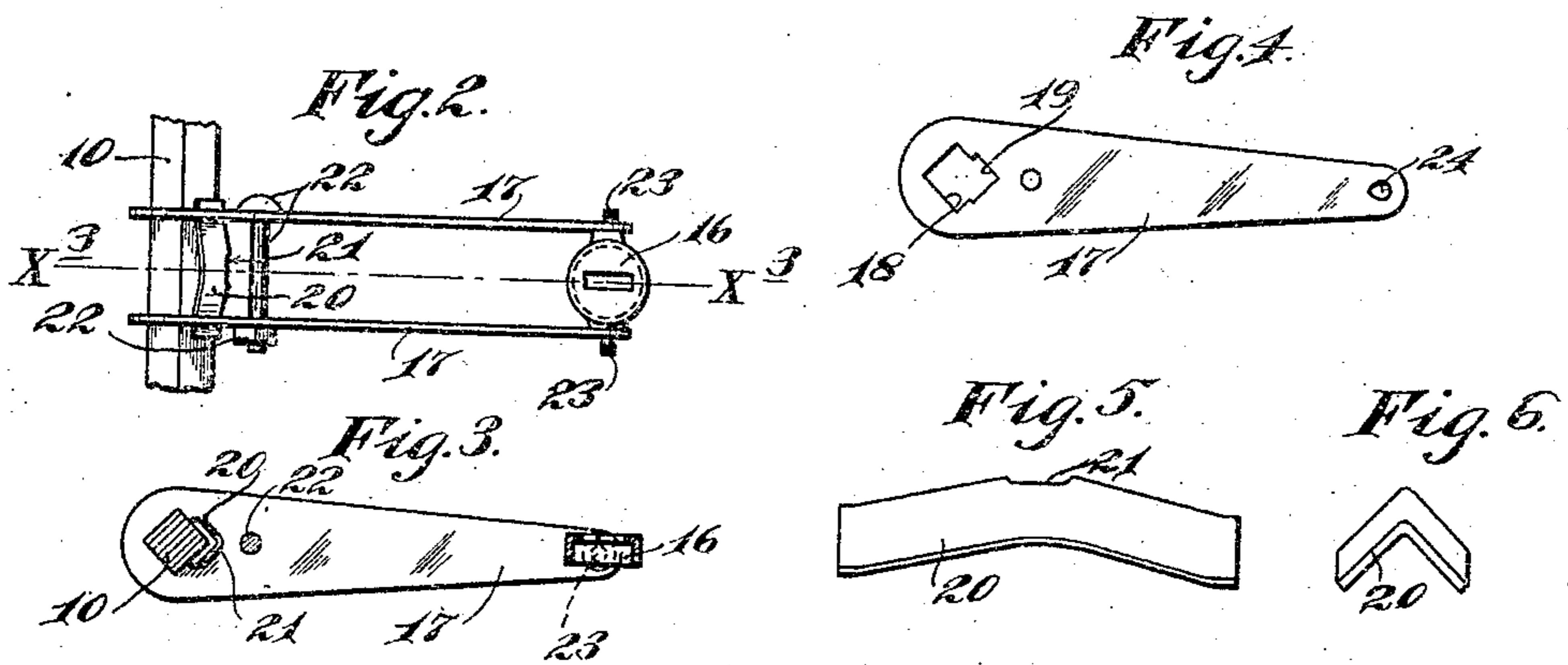
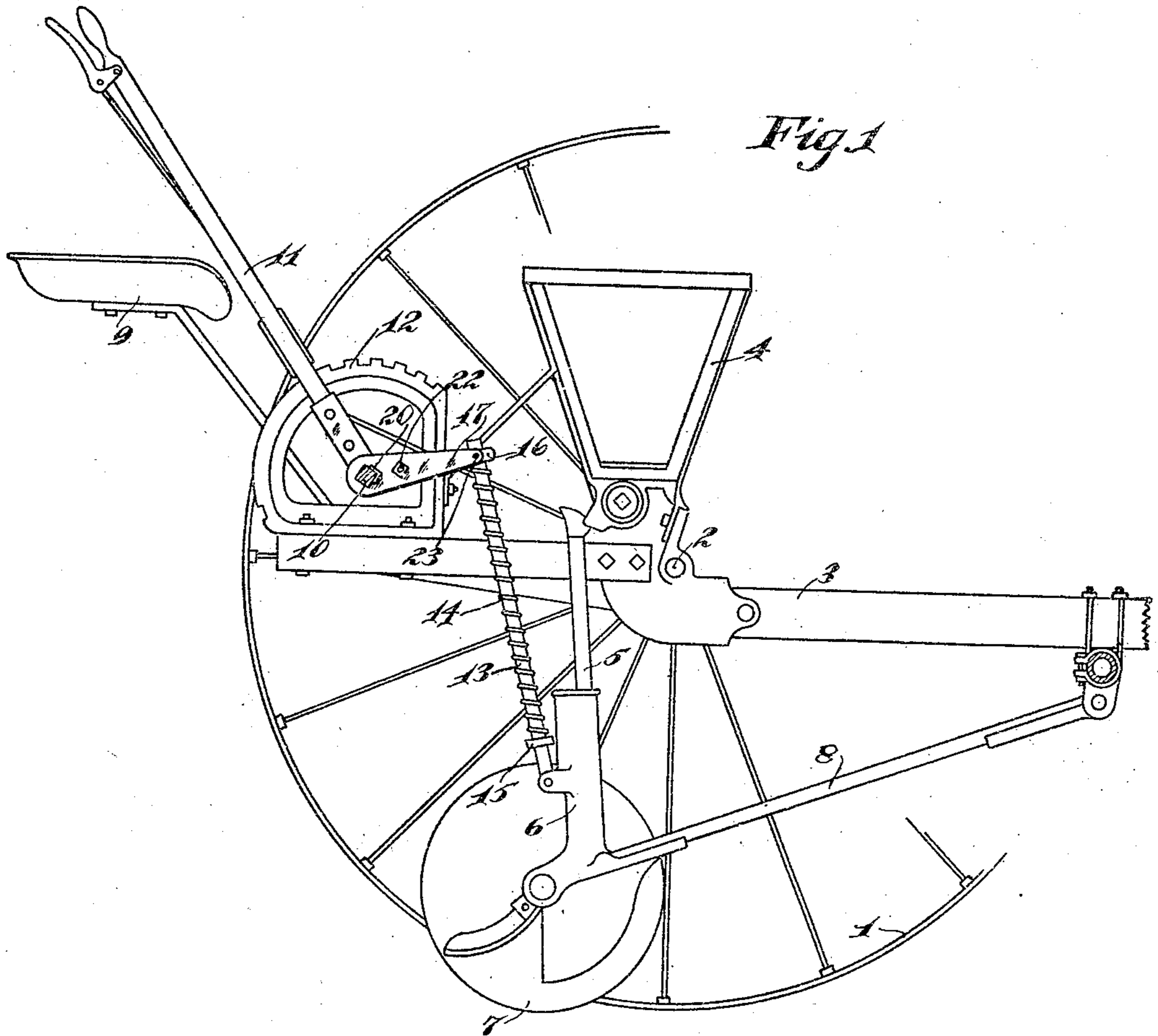


S. E. DAVIS.
ARM AND LEVER.
APPLICATION FILED JUNE 21, 1909.

959,475.

Patented May 31, 1910.



Witnesses:

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UNITED STATES PATENT OFFICE.

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ARM AND LEVER.

959,475.

Specification of Letters Patent.

Patented May 31, 1910.

Application filed June 21, 1909. Serial No. 503,361.

To all whom it may concern:

Be it known that I, SPENCER E. DAVIS, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Arms and Levers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention has for its object to improve the construction of arms or levers and relates more particularly to the improvement of those used in connection with angular shafts, to which they are anchored or secured.

To the above ends, the invention consists of the novel devices and combinations of devices hereinafter described and defined in the claims.

In the drawings, the invention, as shown, is incorporated in the arms or levers of a rock shaft, in connection with seeders and drills, but the same principle of construction may be employed in various other machines and the levers or arms may take various forms. For convenience, the term "arm" is hereinafter used in a broad sense to include those devices that might be designated either as arms or levers, and the term "angular shaft" is hereinafter used in a broad sense to describe a shaft that is other than round in cross section.

In the accompanying drawings which illustrate the invention, like characters indicate like parts throughout the several views.

Referring to the drawings: Figure 1 is a view partly in diagram and partly in vertical section, and with some parts broken away, illustrating my invention applied, as above indicated, to a disk drill or seeding machine; Fig. 2 is a plan view showing a portion of the disk raising and lowering rock shaft, and one of the presser arms thereof, designed in accordance with my invention; Fig. 3 is a section taken on a line $x^3 x^3$ of Fig. 2; Fig. 4 is a detail view in side elevation showing one of the laterally spaced members of the presser arm; Fig. 5 is a plan view of a double ended wedge bar, which constitutes a feature of my present invention; and Fig. 6 is an end elevation of the said wedge bar.

Of the parts of the disk drill or seeding machine, the numeral 1 indicates the wheels, the numeral 2, the axle, the numeral 3, the frame, the numeral 4, the seed hopper, the numeral 5 one of the grain delivery spouts, the numeral 6 one of the shoes, the numeral 7 one of the disks, the numeral 8 one of the drag bars, and the numeral 9 the driver's seat.

The numeral 10 indicates the square or angular shaft of the disk raising and lowering device, sometimes designated as the presser device. In the usual construction, this rock shaft is manipulated by a latch lever 11, which coöperates with a notched segment 12, secured in the rear portion of the frame 3, and the said shaft is provided with a plurality of presser arms that are connected to the respective seed boots 6, each by a rod 13, around which is placed a coiled spring 14, which spring re-acts at its lower end against a collar 15 on said rod, and at its upper end, re-acts against a cap 16, through which the upper end of said rod 13 is adapted to work vertically, said rod being held from withdrawal from said cap usually by a pin not shown, but which will be placed in its extreme upper end. As already indicated, my invention, as shown, is applied to the said presser arms. In the drawings, only one of these presser arms is shown, and it is made up of a pair of laterally spaced flat metal members 17, which are preferably stamped from sheet steel. The base or pivotally mounted ends of these arm members 17, are formed with angular seats 18, that closely fit the angular shaft 10, but at one corner, they are provided with angular enlargements 19, of a form best shown in Fig. 4. These arm members 17 are spaced apart and rigidly clamped to the angular shaft 10 by a double ended wedge bar 20, which, in its best form, is made from a piece of angle iron, but is longitudinally bent so that the exterior surface of its angle is convex, thereby forming a double ended wedge of the form best shown in Figs. 2 and 5. At the central portion of its angular ridge, this bar 20 is preferably notched at 21, to facilitate the bending thereof. The angular ends of the said bar 20 are adapted to fit one of the angular edges of the shaft 10, and to be inserted into the angular seat extensions 19 of the shaft seats 18. Then by a short nutted bolt 22, which is passed through the arm members 17 quite close to the wedge bar 20, the arm members

17 are drawn toward each other and onto the wedge-shaped ends of the said bar. This drawing action of the bolt tightly crowds the ends of the wedge bar between the arm members and shaft, and thus causes the said angular shaft to be very tightly clamped on two of its sides by the seats 18, and on its other two sides by the end of the said wedge bar. This connection, therefore, not only very securely locks the arm members and the shaft against oscillatory movements thereon, but also locks the same against sliding movements. Nevertheless, the said connection permits the arm members to be properly set at any desired point on the shaft 10 and then to be locked in their set positions. In this preferred construction, the spring cap 16 is provided with diametrically opposite trunnions 23, that are pivotally seated in perforations 24, formed in the free ends of the arm members 17.

In actual practice, the efficiency of the improved arm above described has been demonstrated, and has also been found that it may be made at very small cost.

What I claim is:

1. The combination with an angular shaft, of an arm made up of laterally spaced arm members, having seats engaging said shaft, and a double-ended spacing wedge, the ends of which are inserted between said shaft and the shaft seats of said arm members and project through said arm members, substantially as described.
2. The combination with an angular shaft, of an arm made up of laterally spaced arm members having seats engaging said shaft, a double-ended spacing wedge, the ends of which are inserted between said shaft and the shaft seats of said arm members and project through said arm members, and a nutted bolt for drawing the said arm members against said spacing wedge, substantially as described.
3. The combination with an angular shaft, of an arm made up of laterally spaced arm members having angular seats engaging said shaft, a double-ended wedge bar which is

angular in cross section, placed on one of the angular edges of said shaft with its ends interposed between said shaft and the angular shaft seats of said arm members and projecting through said arm members, and means for clamping said arm members against the ends of said wedge bar, substantially as described.

4. The combination with a rectangular shaft, of an arm made up of laterally spaced arm members having rectangular seats fitting said rectangular shaft, said seats at one corner having an angular enlargement, a double-ended wedge bar fitting one corner of said shaft with its ends inserted in the enlargements of the said shaft seats and pressing one corner of said shaft, and a bolt for clamping said arm members against said wedge bar, substantially as described.

5. The combination with an angular shaft, of an arm made up of laterally spaced arm members having angular seats fitting said shaft, a longitudinally bowed double-ended wedge bar that is angular in cross section with its ends engaging one corner of said shaft and interposed between said shaft and the shaft seats of said arm members, and means for clamping said arm members onto said wedge bar, substantially as described.

6. The combination with a rectangular shaft, of an arm made up of laterally spaced arm members having angular seats fitting said shaft, said seats having angular enlargements at one corner, of a longitudinally bowed double-ended wedge bar that is angular in cross section with its ends engaging one corner of said shaft and inserted in the enlargements of said shaft seats, a device spacing the free ends of said arms, and a nutted bolt applied to said arms and clamping the same against the ends of said wedge bar, substantially as described.

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

SPENCER E. DAVIS.

Witnesses:

ALICE V. SWANSON,
HARRY D. KILGORE.