

G. J. DALLISON.  
CRANKING HANDLE.  
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927,642.

Patented July 13, 1909.

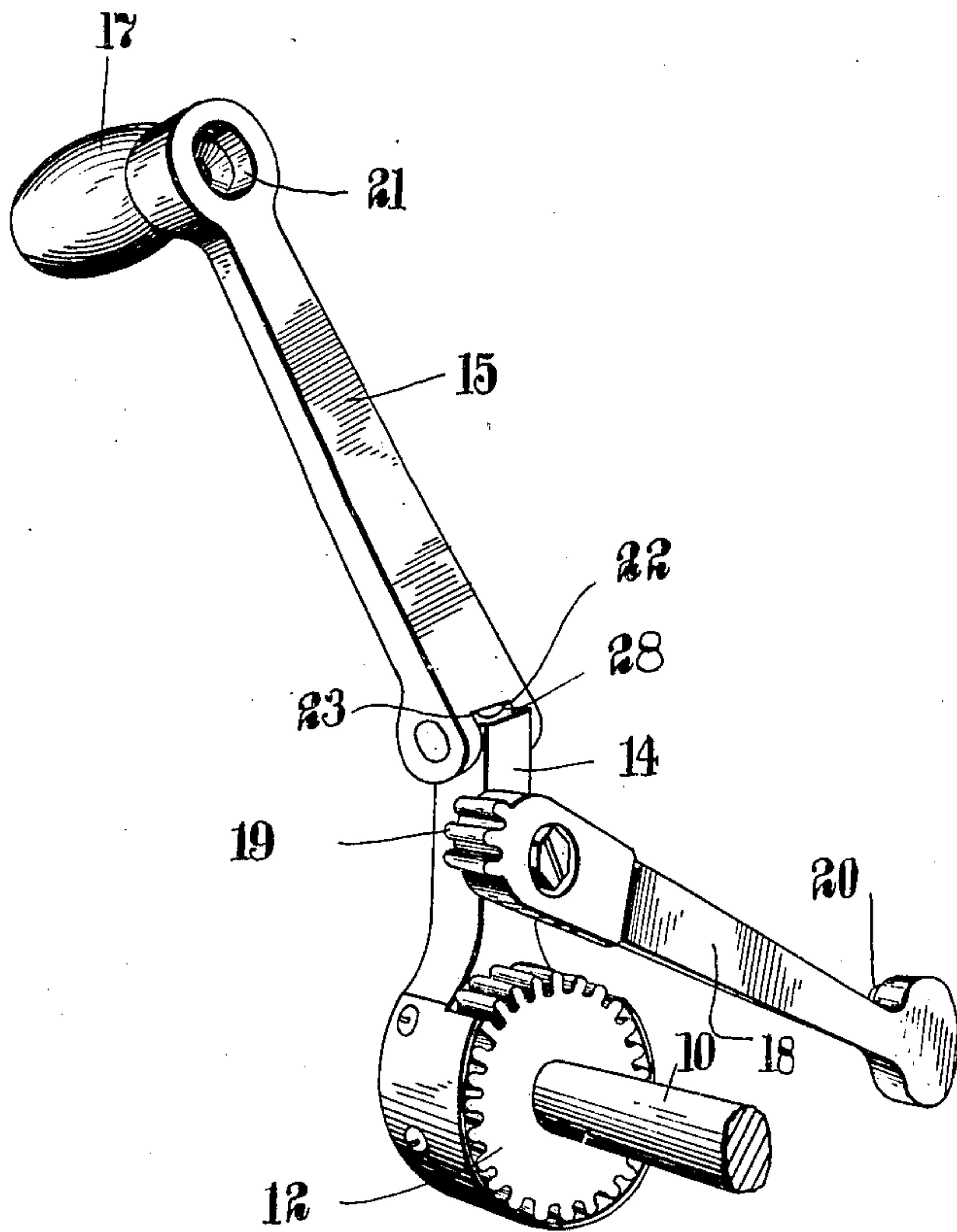


FIG. 1.

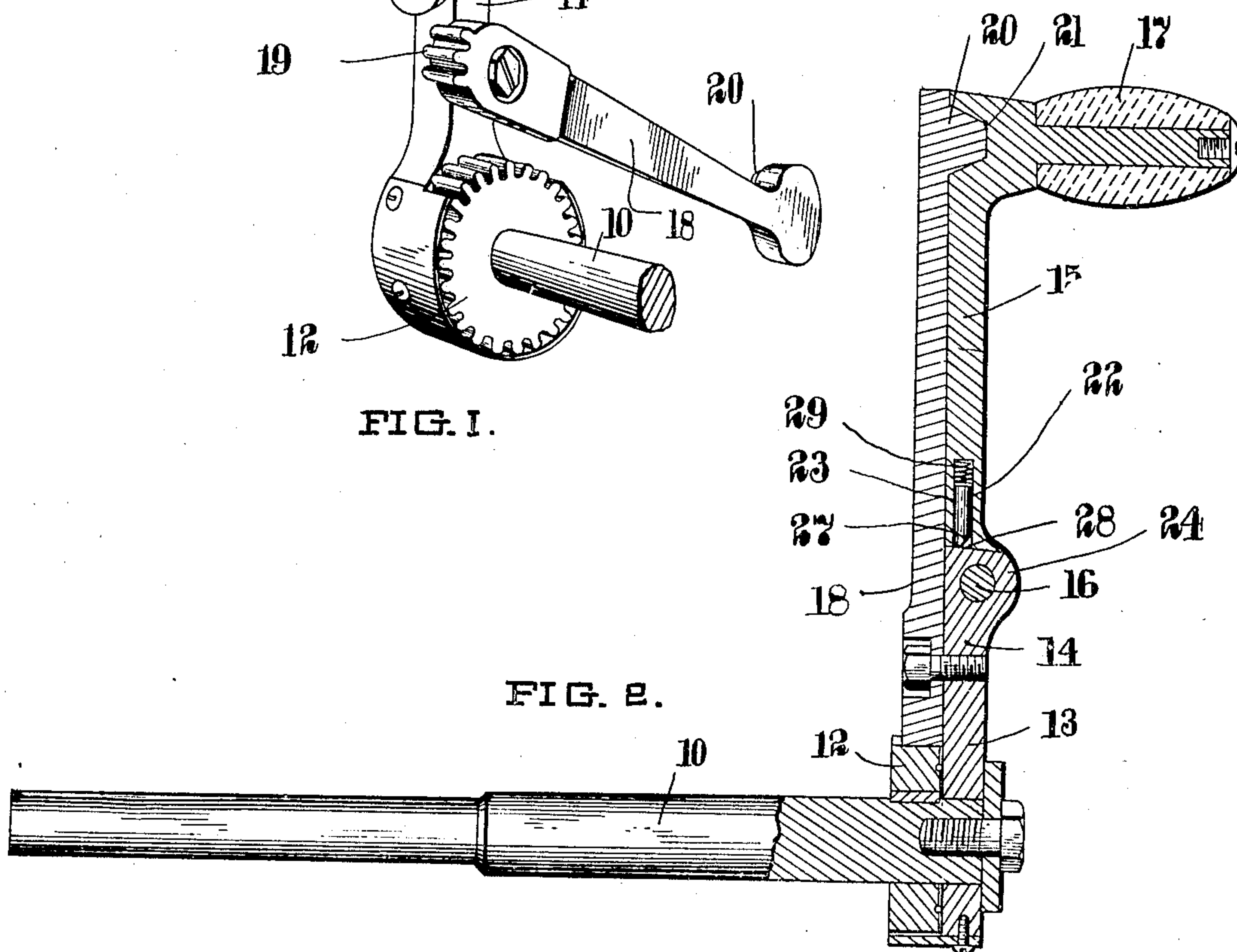


FIG. 2.

WITNESSES

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# UNITED STATES PATENT OFFICE.

GEORGE J. DALLISON, OF OTTAWA, ONTARIO, CANADA.

## CRANKING-HANDLE.

No. 927,642.

Specification of Letters Patent.

Patented July 13, 1909.

Application filed November 25, 1908. Serial No. 464,483.

*To all whom it may concern:*

Be it known that I, GEORGE JOSEPH DALLISON, of Ottawa, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Cranking-Handles, of which the following is a specification.

My invention relates to improvements in cranking arms, and the objects of the invention are to prevent the liability of injury to the hand of a person cranking an internal combustion engine.

In the drawings, Figure 1 is a longitudinal section through the crank shaft. Fig. 2 is a perspective view of the cranking arm.

Referring to the drawings, 10 is the crank-shaft, which has a toothed wheel 12 radially secured thereto, at one end. On the outside of this wheel, the crank 13 is loosely supported on the shaft, the said crank being formed in two parts 14 and 15 hinged with freedom to tilt outwardly, at 16, the outer portion having a handle 17.

Pivoted to the inner portion 13 is a lever 18 having a plurality of teeth 19 formed at one end, adapted to mesh with the teeth on the pinion 12 when the lever 18 is parallel with the crank 13.

The opposite end of the lever 18 has a conoidal projection 20 formed thereon, adapted to extend into a socket 21 in the reverse side of the section 15 of the crank, the said section 15 being normally held away from the projection by means of a plunger 22 located in a recess 23 and having a beveled end 27 adapted to normally bear against the surface 28 formed on the member 14, when forced upwardly by the compression spring 29, the action of said plunger being to normally hold the upper sections in outwardly tilted position as shown in Fig. 1.

When it is desired to crank the engine, the handle 17 is grasped and the socket 21 engaged with the projection 20. When in this position, the teeth 19 will engage with the pinion wheel 12 and a turning movement of the handle will cause a turning movement of the crank 10 and cranking can be effected.

Any back kick will cause the hand of the operator to drop the handle 17, which will fly outwardly under the action of the spring plunger, disengaging the socket 21 from the projection 20 and the shaft 10, rotating under the back kick, will rotate the pinion 12 out of engagement with the teeth 19 and the crank arm will thus be loose on the shaft, and

there will be no tendency for it to swing around again to strike the hand of the operator.

What I claim as my invention is:—

1. In a cranking handle, the combination with the shaft, of an arm loose thereon formed of two parts hinged together, spring means normally holding the parts in bent position, a pinion on the shaft, an arm pivoted to the innermost section of the crank arm having teeth on one end adapted to engage the pinion, and having a projection at the opposite end, the outermost of said sections of the crank arm being formed with a socket adapted to receive the projection.

2. In a cranking handle the combination with a shaft having a pinion fixed thereon, of a handle mounted on the shaft but free therefrom, a tiltable member on the handle adapted to engage the pinion and adapted to be released therefrom by an excessive torque on the shaft.

3. A cranking handle comprising an inner section loosely mounted on the shaft, an outer section pivoted thereto and adapted to tilt in a direction substantially parallel to the axis of the shaft and means operable only when the outer section is in innermost position for connecting the handle with the shaft.

4. A cranking handle comprising an inner section loosely mounted on the shaft, an outer section pivoted thereto and adapted to tilt in a direction substantially parallel with the axis of the shaft, means operable only when the outer section is in innermost position for connecting the handle with the shaft, and spring means normally forcing the outer section to outermost position.

5. A cranking handle comprising an inner section loosely mounted on the shaft, an outer section pivoted thereto and adapted to tilt in a direction substantially parallel with the axis of the shaft, a tiltable member pivoted to the inner section and adapted to engage the outer section when in innermost position and means connecting said tiltable member with the shaft when the said member is engaged with the outer section.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

GEORGE J. DALLISON.

Witnesses:

RUSSEL D. SMART,  
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