No. 615,903. Patented Dec. 13, 1898.

F. H. RICE.

BRAKING DEVICE.

(Application filed Jan. 29, 1898.)

(No Model.)

Fig. 1.

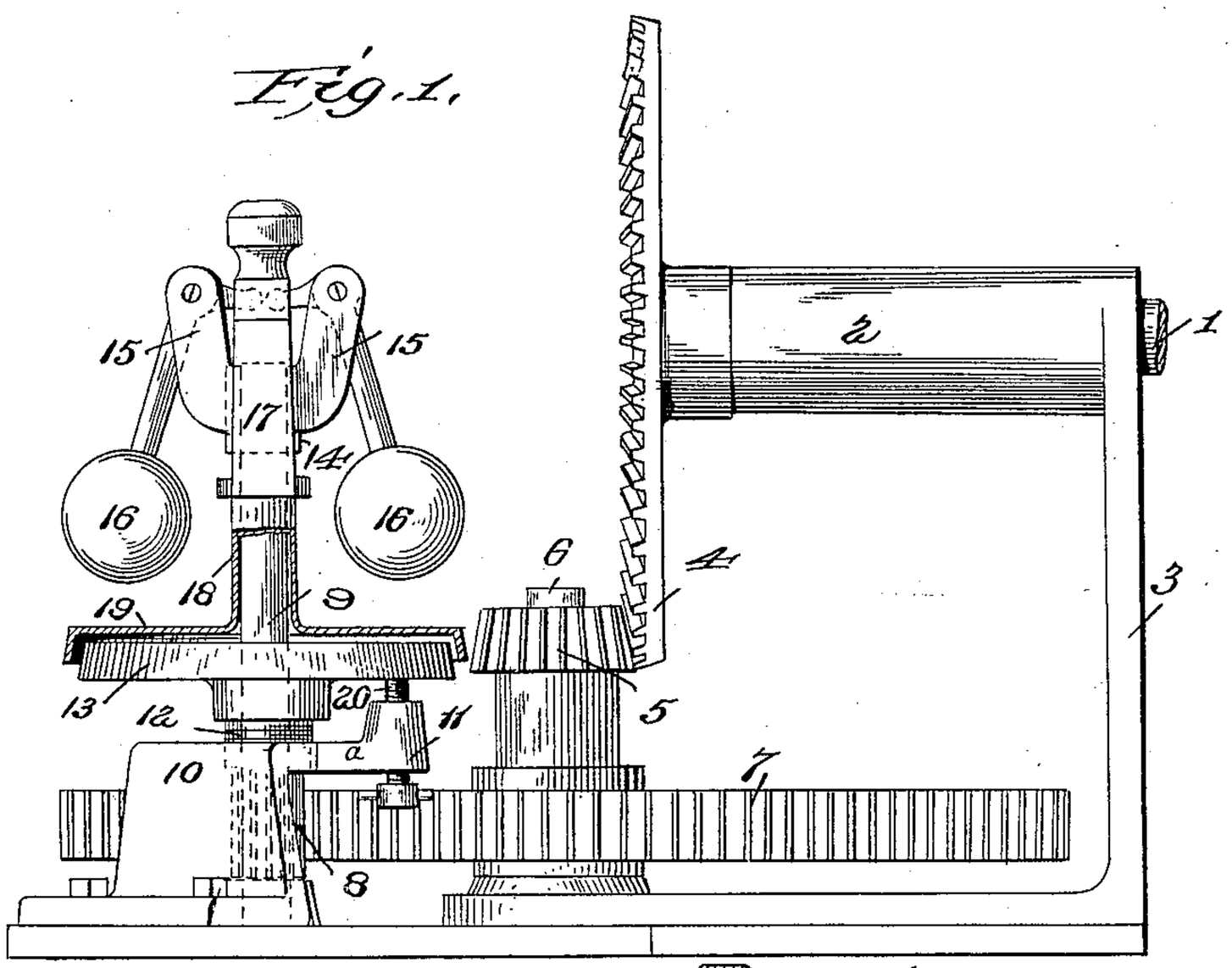


Fig. 5.

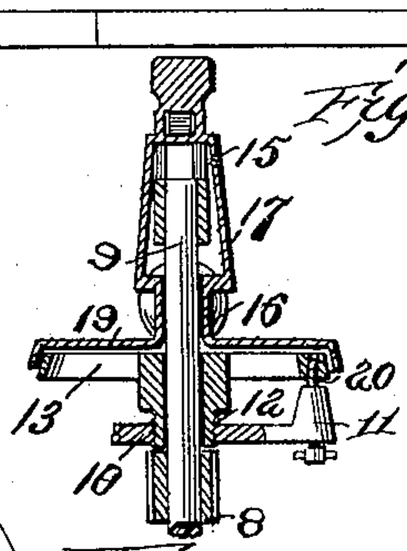


Fig. 3.

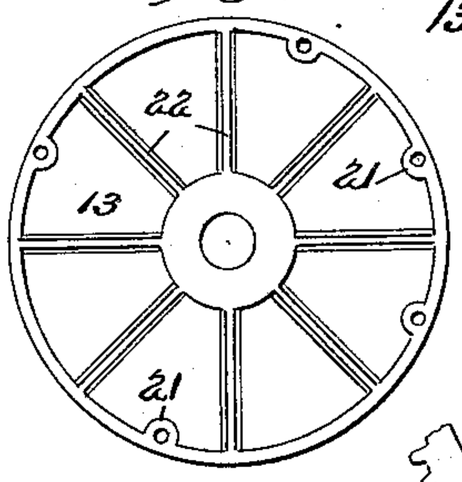
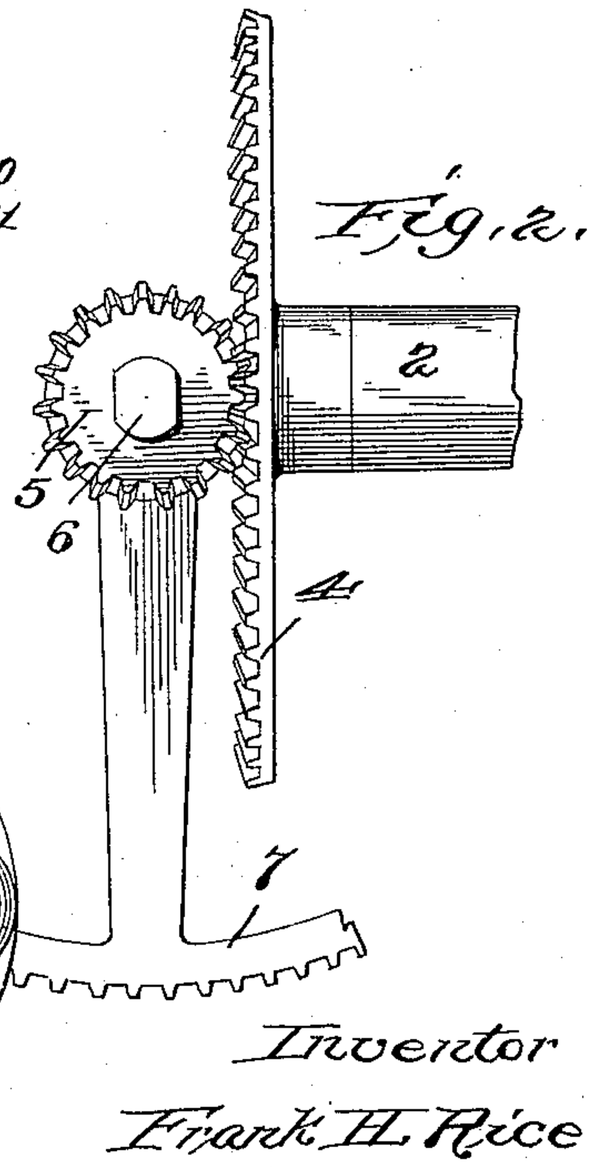
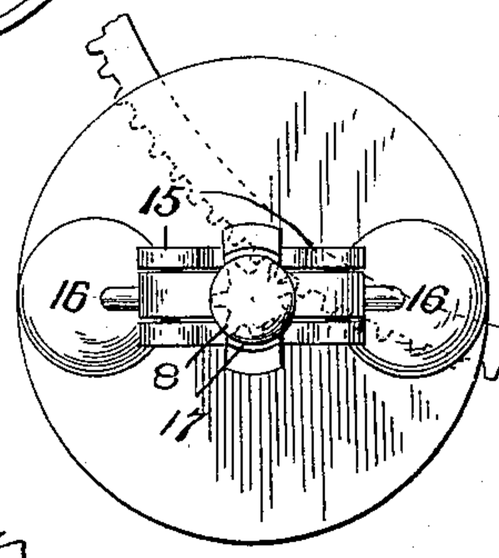


Fig. 4.

Fig. 2.





Attest
Walter Donaldson
C. S. Middleton

Inventor
Frank H. Rice
by Ellis & Spear
Atty.

UNITED STATES PATENT OFFICE.

FRANK HENRY RICE, OF PALMER, PENNSYLVANIA, ASSIGNOR OF TWO-THIRDS TO M. H. JONES, OF EASTON, PENNSYLVANIA.

BRAKING DEVICE.

SPECIFICATION forming part of Letters Patent No. 615,903, dated December 13, 1898.

Application filed January 29, 1898. Serial No. 668,486. (No model.)

To all whom it may concern:

Be it known that I, FRANK HENRY RICE, a citizen of the United States, residing in Palmer township, county of Northampton, and State of Pennsylvania, have invented certain new and useful Improvements in Braking Devices, of which the following is a specification.

My invention relates to an improved braking device capable of use in various situations, particularly in connection with a governor where it is desirable to prevent the rotation of a shaft or the like beyond a predetermined speed.

To this end the invention includes an adjustable brake member normally held stationary and a movable member adapted to be pressed into contact with the first member to form the brake, the degree of pressure being regulated by an ordinary governor device.

The invention also includes the details of construction hereinafter described and particularly claimed.

The device is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation showing parts in section. Fig. 2 is a detail plan view. Figs. 3 and 4 are detail views. Fig. 5 is a detail sectional view.

The shaft or other rotating element the speed of which it is desirable to regulate is geared to the shaft 1 in any well-known manner. This shaft is journaled in a sleeve 2, extending horizontally from a bracket 3, secured to any suitable base.

A bevel-gear 4, keyed to one end of the shaft 1, meshes with a smaller bevel-gear 5, rigid on a vertical spindle 6, which latter carries a large gear-wheel 7, which meshes with a small pinion 8, carried by a vertical spindle 9, journaled in bearings in an independent bracket 10. This bracket 10 may be cast integral with the bracket 3, and it is provided with a horizontal extension, having a boss 11 projecting upwardly from the end thereof. In this horizontal portion a nipple 12, forming a continuation of the lower braking member 13, is threaded to adjustably support this member from said horizontal part of the bracket. The spindle 9 passes freely through this nipple and the hub of said member 13 and has a collar 14 rigidly fixed on the upper end thereof, which has an integral pair of arms 15 extending upwardly therefrom, in which the pivots of the angular arms of the governor-balls 16 are fixed. The short members of the governor-arms engage a cap 17, guided on said spindle 9, which cap carries a sleeve 18, having a disk 19 at the bottom thereof adapted to be pressed against the member 13 by the operation of the governor-balls when they fly outwardly sufficiently to depress the cap 17 to this extent. The lower member 13 is held stationary normally by a stud 20, threaded in the boss 11, that engages the opening in one of the bosses 21. This member 13 is formed of a central hub and an outer ring connected by radial arms 22 of wedge shape. Thus a cutting edge is provided on each arm which will cut or scrape any frost or the like from the under side of the disk 19 as soon as the parts contact. By adjusting the member 13 in its relation to the disk 19, which is done by screwing the nipple 12 into or out of its threaded seat, the speed of the shaft 1 necessary to cause the braking-surfaces to contact is regulated.

I claim—

1. In combination, the drive-shaft, the spindle geared thereto, the movable brake-disk slidable on said spindle, the governor for regulating the vertical movement thereof, the stationary brake member and means adjustably supporting the same, substantially as described.

2. In combination, a bracket, the lower braking member having a screw-threaded connection therewith, means carried by said bracket for locking said member against rotation, a spindle extending through said member, a braking-disk guided thereon, the governor for regulating the vertical movement of said disk and means for gearing said spindle to a drive-shaft, substantially as described.

3. In combination, a bracket, the lower braking member having a screw-threaded connection therewith, a stud held in said bracket adapted to detachably engage said member to prevent the rotation thereof, a spindle geared to the drive-shaft, a sleeve loosely fitting said spindle, the brake-disk carried

thereby and the governor for regulating the vertical movement of the disks, substantially as described.

4. In combination, a bracket, the spindle, the disk having a plain under side guided thereon, the governor-balls for regulating the vertical movement of said disk, and the lower braking member having radial arms with cutting edges adapted to scrape said disk, substantially as described.

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

FRANK HENRY RICE.

Witnesses:

REUBEN KOLB,

ALICE FENICLE.