T. A. WESTON.

Brake-Clutches.

No. 155,779. Patented Oct. 6, 1874.

FIG. 1.

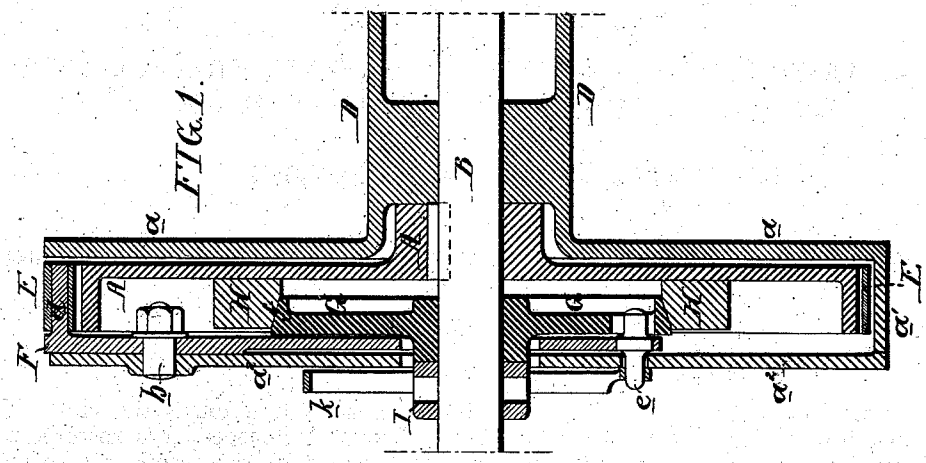
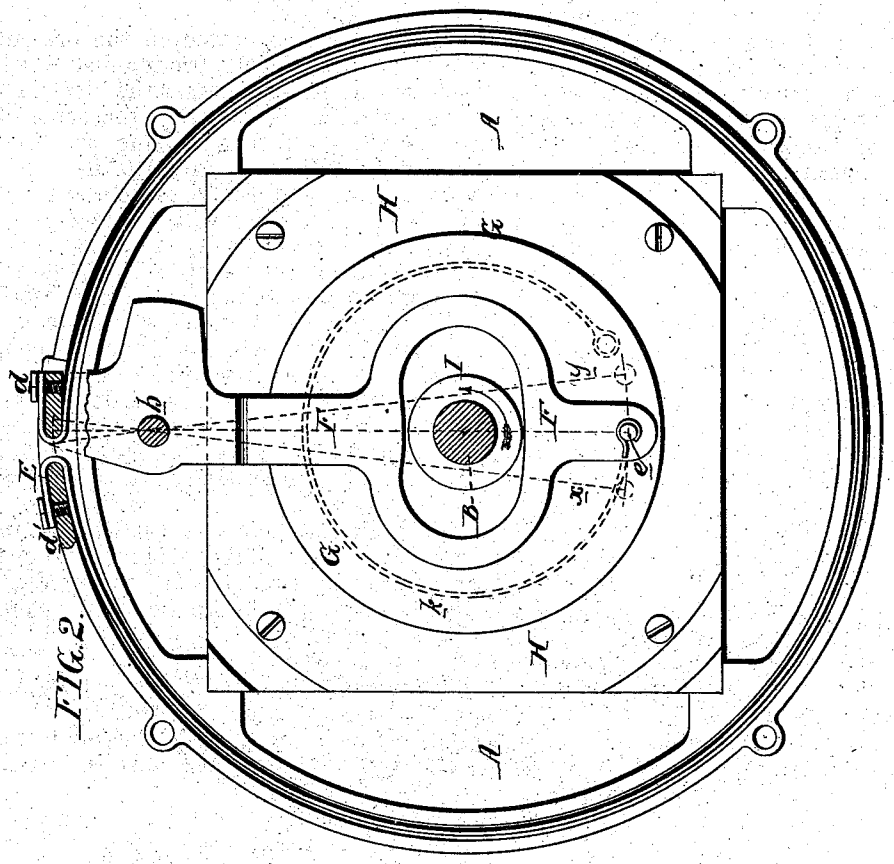


FIG. 2.



Witnesses, Hubert Howson
Thomas McIlvain

J. A. Weston
by his Attys.
Howson and Sons.

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

THOMAS A. WESTON, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO HIMSELF AND JOHN HEINS, OF SAME PLACE.

IMPROVEMENT IN BRAKE-CLUTCHES.

Specification forming part of Letters Patent No. **155,779**, dated October 6, 1874; application filed September 3, 1874.

CASE B.

To all whom it may concern:

Be it known that I, THOMAS A. WESTON, of Philadelphia, Pennsylvania, have invented an Improved Brake-Clutch, of which the following is a specification:

The object of my invention is to clutch a hoisting-barrel or other elevator or driver to, and release it from, a shaft; and this object I accomplish by the mechanism illustrated in Figs. 1 and 2 of the accompanying drawing, which I will now proceed to describe.

A flanged friction-wheel, A, is secured to the shaft B, and is contained within a box or case formed on the hoisting-drum D by the flange *a* of the said drum, its rim a^1, and a cap-plate, a^2, bolted to the said rim. The drum, with its box, is loose on the shaft, and can be clutched to, or released from, the same, as explained hereafter. F is a lever, pivoted at *b* to the cap-plate a^2 of the hoisting-drum, and is connected, at the point *d*, to one end of the friction-band E, which surrounds the friction-wheel A, and is connected, at its opposite end *d'*, to the rim of the drum. The lever is slotted, or otherwise constructed so as to avoid contact with the shaft B, and is connected, at the extremity of its short arm, by a pin, *e*, to a friction-disk, G, the beveled edge of which is adapted to an opening of corresponding shape in a plate, H, secured to the face of the friction-wheel A, the said disk being attached to a sleeve, I, to be so controlled by a lever or otherwise that the friction-disk can be readily applied to, or withdrawn from, the plate H.

When the lever F is in the position indicated by the dotted line *x*, or in the position shown by full lines in Fig. 2, the friction-band E is expanded, and free from contact with the periphery of the wheel A; but, when the said lever is moved to the position indicated by the dotted line *y*, the friction-band is contracted, and, embracing the periphery of the friction-wheel, clutches the drum to, and causes it to turn in the same direction as, the shaft. When the said lever is released, it is restored to its original position by the recoil of a spring, *k*, connected to its long arm and to the disk G, the friction-band being thereby expanded, and the drum released.

The lever F is operated, in the present instance, by means of the friction-disk G, which, when forced inward against the block H, will be turned with the latter in the same direction as the shaft, thus causing the lever to turn upon its fulcrum until the friction-band is contracted and the drum clutched, when the whole of the parts will rotate as a unit in the same direction, and, on simply drawing back the disk from the plate H, the lever will be operated by its spring *k*, as before described, in such a manner as to release the drum.

I wish it to be understood that, although I prefer to employ this simple friction-disk as a means of operating the lever, I do not confine myself to its use, as any frictional device by which the lever could be connected to, and disconnected from, the shaft or friction-wheel A might be used.

I have illustrated a hoisting-drum, D, in the drawing; but it will be evident that my invention can be used as well for clutching and releasing a chain-wheel pulley, spur-wheel, or other rotating driver.

I claim as my invention—

The combination of a friction-wheel A on a shaft, B, a loose drum or wheel, D, a friction-band, E, the lever F, and a friction device for operating the said lever, all substantially as set forth.

In testimony whereof I have signed my names to this specification in the presence of two subscribing witnesses.

THOS. A. WESTON.

Witnesses:

E. H. BAILEY,

HARRY SMITH.