

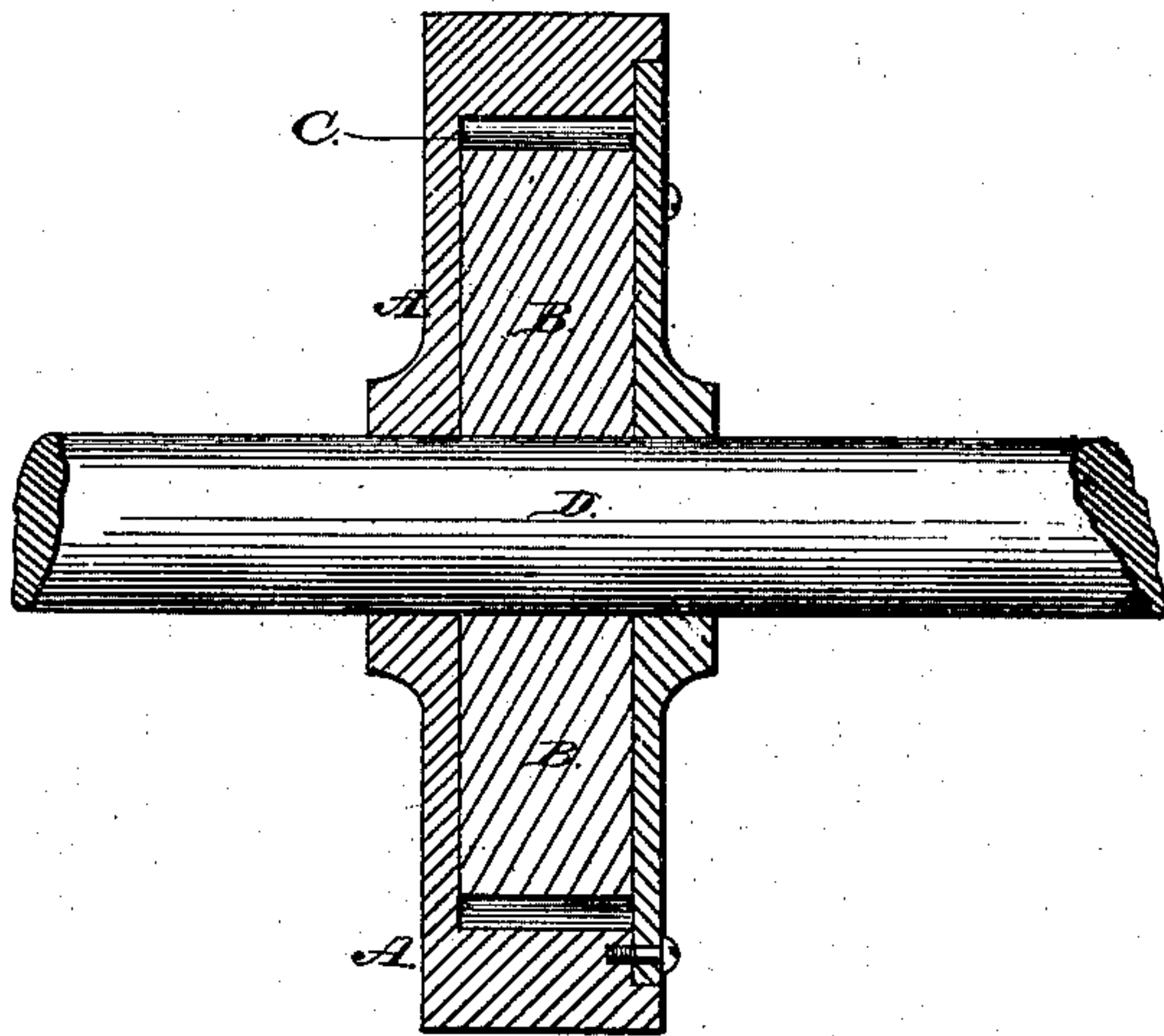
G. N. LYSAGER.

SAFETY-CLUTCH FOR ELEVATORS.

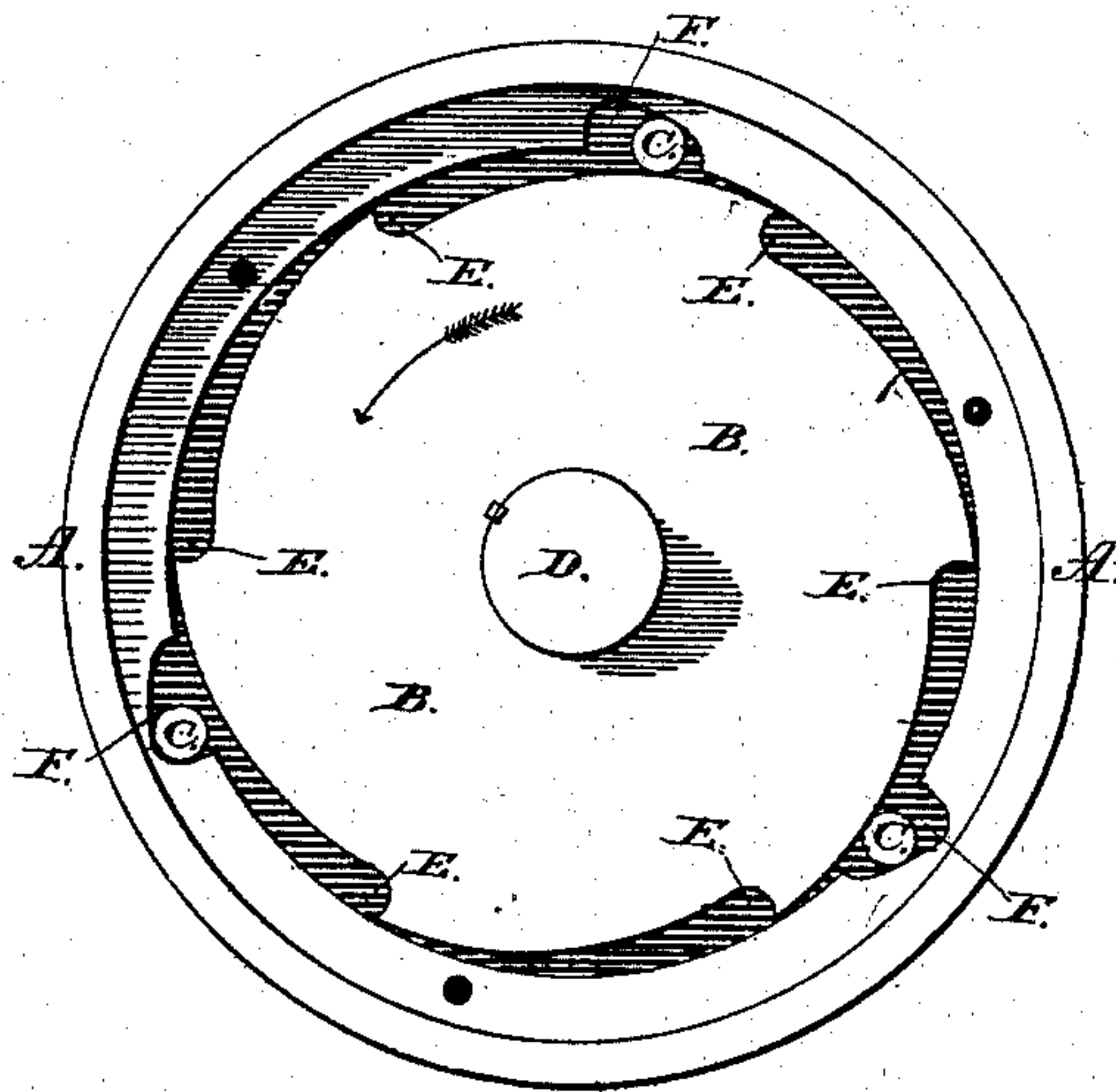
No. 173,978.

Patented Feb. 22, 1876.

*Fig. 1.*



*Fig. 2.*



*Attest:*

*Erastus Foote Jr.*  
*C. F. Weber*

*Inventor:*

*Gabriel Nelson Lysager*

# UNITED STATES PATENT OFFICE.

GABRIEL N. LYSAGER, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE HALF HIS  
RIGHT TO JOHN McDOWELL, OF SAME PLACE.

## IMPROVEMENT IN SAFETY-CLUTCHES FOR ELEVATORS.

Specification forming part of Letters Patent No. **173,978**, dated February 22, 1876; application filed  
December 23, 1875.

*To all whom it may concern:*

Be it known that I, GABRIEL NIELSEN LYSAGER, of Chicago, Illinois, have invented an Improved Safety-Clutch for Elevators and other Purposes, of which the following is a specification:

This invention contemplates an improvement in that class of friction safety-clutches constructed with a fixed and a movable part, with an immediate member for locking, which admits of motion in one direction but locks when the motion is reversed; and consists in providing a series of eccentric recesses for rollers in both the rigid and movable parts, so that when the motion is reversed they are locked together by the positive obstruction of parts, instead of by friction against a smooth surface, as in the ordinary clutch for similar purposes, and is described in detail as follows:

In the drawing, A represents an annular case, running loosely on shaft D, on the periphery of which the ordinary friction-brake is to be applied, with an interior diameter equal to the diameter of ratchet-disk B contained within the case; B, ratchet-wheel keyed on shaft D, fitted to run loosely in the recess of case A, to be fully enclosed by a cap, which forms part of the case, and which holds the parts together. C C C are rollers of a diameter nearly equal to twice the depth of recesses E E E in ratchet B; D, horizontal shaft, on which ratchet B is keyed, and which carries the clutch in a vertical position; E E E, recesses in ratchet B of sufficient depth to receive one-half the body of the rollers C; F F F, inclined recesses in case A, of a depth at one end equal to the full diameter and at the other equal to the radius of rollers C.

**Operation:** The clutch is to be adjusted on the shaft to admit of motion in the direction indicated by the arrow, while the outer case is firmly held by the brake. The rollers C, following the impulse of gravitation, occupy the recesses in case A below the shaft, while those above roll along the inclines of ratchet B, and fall in the several recesses E E E in their turn, ready when the motion is reversed to be caught in the smaller end of the recesses in case A, and in lowering the pressure on the brake on case A is removed, and the case, being locked to the ratchet by the rollers, revolves with the shaft and ratchet, subject to the government of the brake.

I am aware that other devices have been constructed for a similar purpose, and that rollers have been used as intermediate members to lock against backward motion; but hitherto they have been used in connection with a single inclined recess for the roller, forcing it against a smooth surface, while in the foregoing the rollers are caught and firmly held between the jaws formed by the recesses in both the internal and external parts.

I claim—

1. In a safety-clutch, the duplex recesses E E E and F F F, for the reception of loose intermediates, as described.
2. The combination of rollers C C C with the recesses E E E and F F F, constructed and operated substantially as and for the purposes shown.

GABRIEL NIELSEN LYSAGER.

Witnesses:

ERASTUS FOOTE, Jr.,  
C. F. WEBER.

750 Wm