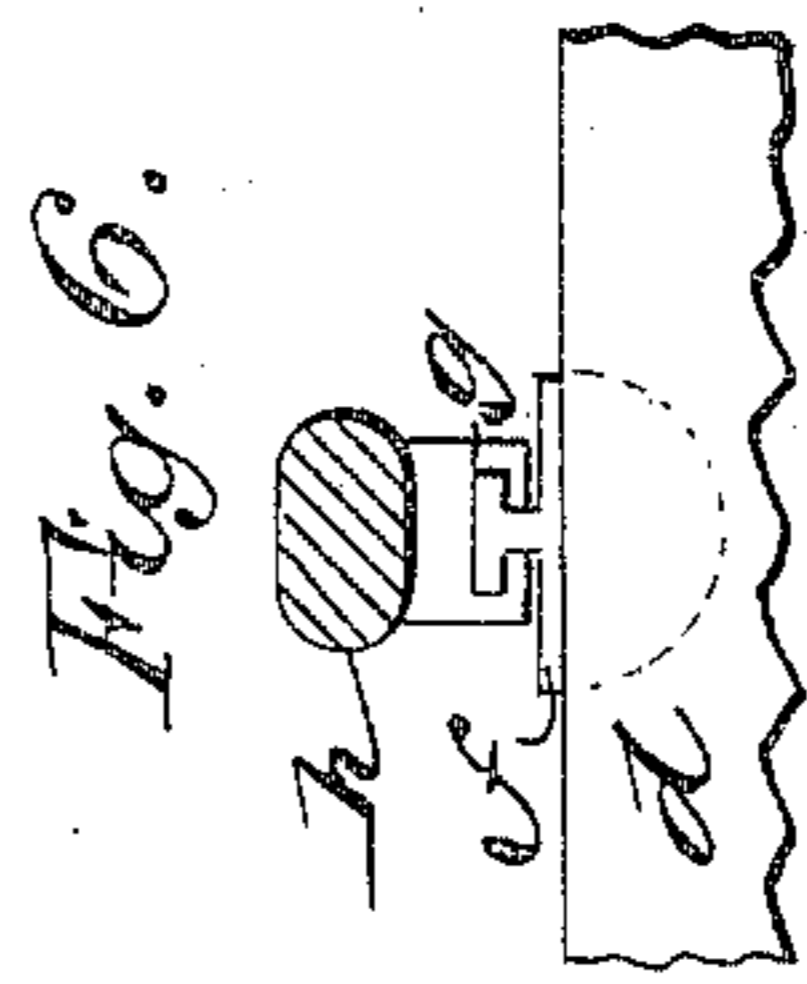
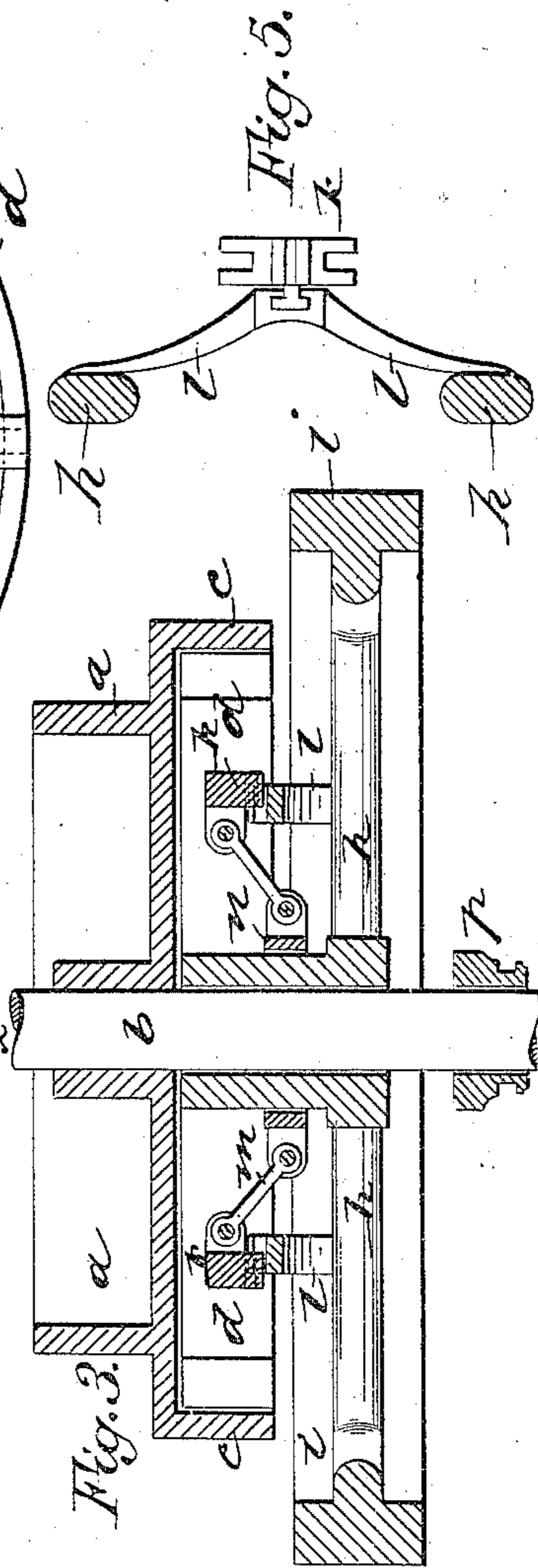
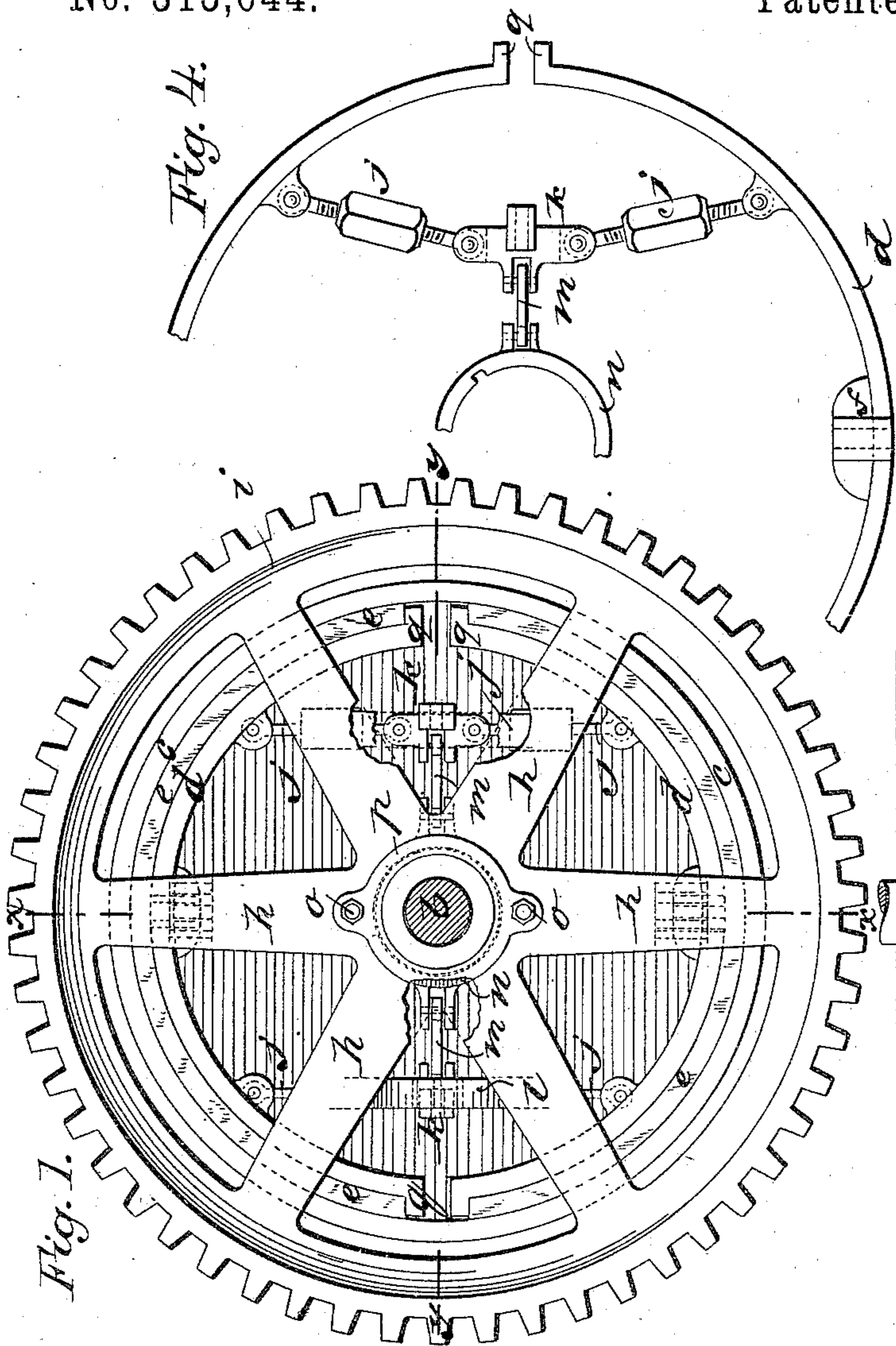


(No Model.)

S. BARTON.
FRICTION CLUTCH.

No. 313,644.

Patented Mar. 10, 1885.



INVENTOR:

S. Barton

BY

ATTORNEYS.

WITNESSES:

Hobbes & Sedgwick

Fig. 2.

N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

STOCKTON BARTRON, OF PORTLAND, PENNSYLVANIA.

FRICTION-CLUTCH.

SPECIFICATION forming part of Letters Patent No. 313,644, dated March 10, 1885.

Application filed August 22, 1884. (No model.)

To all whom it may concern:

Be it known that I, STOCKTON BARTRON, of Portland, in the county of Northampton and State of Pennsylvania, have invented a new and Improved Friction-Clutch, of which the following is a full, clear, and exact description.

My invention consists of an improved contrivance of expanding and contracting friction-segments carried on the side of a wheel fitted loosely on the shaft, in combination with the inner periphery of a rim or flange of a pulley or hoisting-drum keyed fast to the shaft, making simple and efficient friction devices for hoisting and other machinery, all as hereinafter fully described.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a section of the shaft and side elevation of my improved friction-clutch. Fig. 2 is a section of the clutch on the line *xx* of Fig. 1. Fig. 3 is a section of the clutch on the line *yy* of Fig. 1. Fig. 4 is a detail of the friction-rim and the devices for expanding and contracting it. Fig. 5 is a detail of the contrivance for connecting the mechanism for expanding the friction-rim to the loose wheel, and Fig. 6 is a detail of the contrivance for mounting the friction-rim on the loose wheel.

The driving-pulley *a* (or it may be a hoisting-drum or other device to be driven) is designed to be keyed fast to the shaft *b*, and has a flange or rim, *c*, to the inner periphery of which the sectional expanding friction-rim *d*, having wood faces *e*, is fitted, so as to be expanded against the rim and slackened away from it, said rim being connected by tongued lugs *f*, formed on or attached to it, with radially-grooved lugs *g*, cast on arms *h* of the toothed wheel *i*, fitted loosely on the shaft *b*, the rim *d* being made in two segments of semi-circular form, each of which has a connecting-lug, *f*, at the middle, so that they are connected to the wheel *i* by grooved lugs *g*, located opposite to each other on the wheel, to be shifted radially and oppositely to each other for applying the clutch and detaching it.

The two segments of the friction-rim are

jointed about midway between their ends and the center to extension-arms *j*, which are jointed to the sliding head *k*, tongued and grooved into a bar, *l*, supported by a couple of the arms *h* of the wheel *i*, and connected by a link, *m*, with a sliding collar, *n*, fitted on the hub of the wheel *i*, to be shifted forward and backward along the wheel-hub by a forked shipper, (not shown,) to expand and contract the friction-rim by thrusting out and drawing in the heads *k* radially in the manner to thrust out and pull back the arms *j*.

The arms *j* and sliding head *k* form toggle-jointed levers connecting the two segments *d* together, and the links *m* and sliding collar *n* form toggle-levers connecting the two toggle-levers *j k* in a double-toggle jointed mechanism adapted for thrusting out the friction-brakes with great power. The collar *n* is connected by rods *o*, extending through the wheel to a sliding collar, *p*, on the shaft *b*, outside of the wheel, for a means of connecting the forked shipper to said collar *n*, which is located between the wheel *i* and the pulley or drum *a*, where the shipper cannot be connected directly to it.

The rims *d* have a flange, *q*, at each end, to hold the wood faces against being forced around the rims more effectually than they can be riveted onto the faces of the rims *d*.

It is immaterial to the operation of the clutch whether the pulley *a* or the wheel *i* be the driver.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a friction-clutch, the expanding segmental sections having at their ends outwardly-projecting flanges or stops, whereby the frictional face-strips are held thereon, substantially as and for the purpose set forth.

2. The toggle devices *j k*, having support on the arms of the wheel *i* by bars *l*, said devices or levers *k* and the bars *l* being tongued and grooved together, and said levers sliding or moving in a plane transversely to the length of said bars, in combination with the expanding friction-rims *d*, also mounted on wheel *i*, and the shipper-collar *n*, substantially as described.

3. The combination of the shipper-collar *p*

and rods *o* with the collar *n*, located between the loose wheel *i* and the fast pulley *a*, and connected with the friction-rims *d* by toggle mechanism *m* and *j k*, said rods *o* extending
5 through the wheel *i*, substantially as described.

4. In a friction-clutch, the friction-rims *d*, combined with the rims *c* of the fast pulley, and connected to the loose wheel *i* by the radially tongued and grooved lugs *f g*, said

tongued lugs being formed upon levers *k*, and 10 said grooved lugs being made in bars *l* of the connection, and said friction-rims having means for expanding and contracting them, substantially as described.

STOCKTON BARTRON.

Witnesses:

JNO. BUZZARD,
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