

W. GOODING.

PULLEYS FOR TRANSMITTING POWER FROM LINE SHAFTING.

No. 174,230.

Patented Feb. 29, 1876.

Fig. 1.

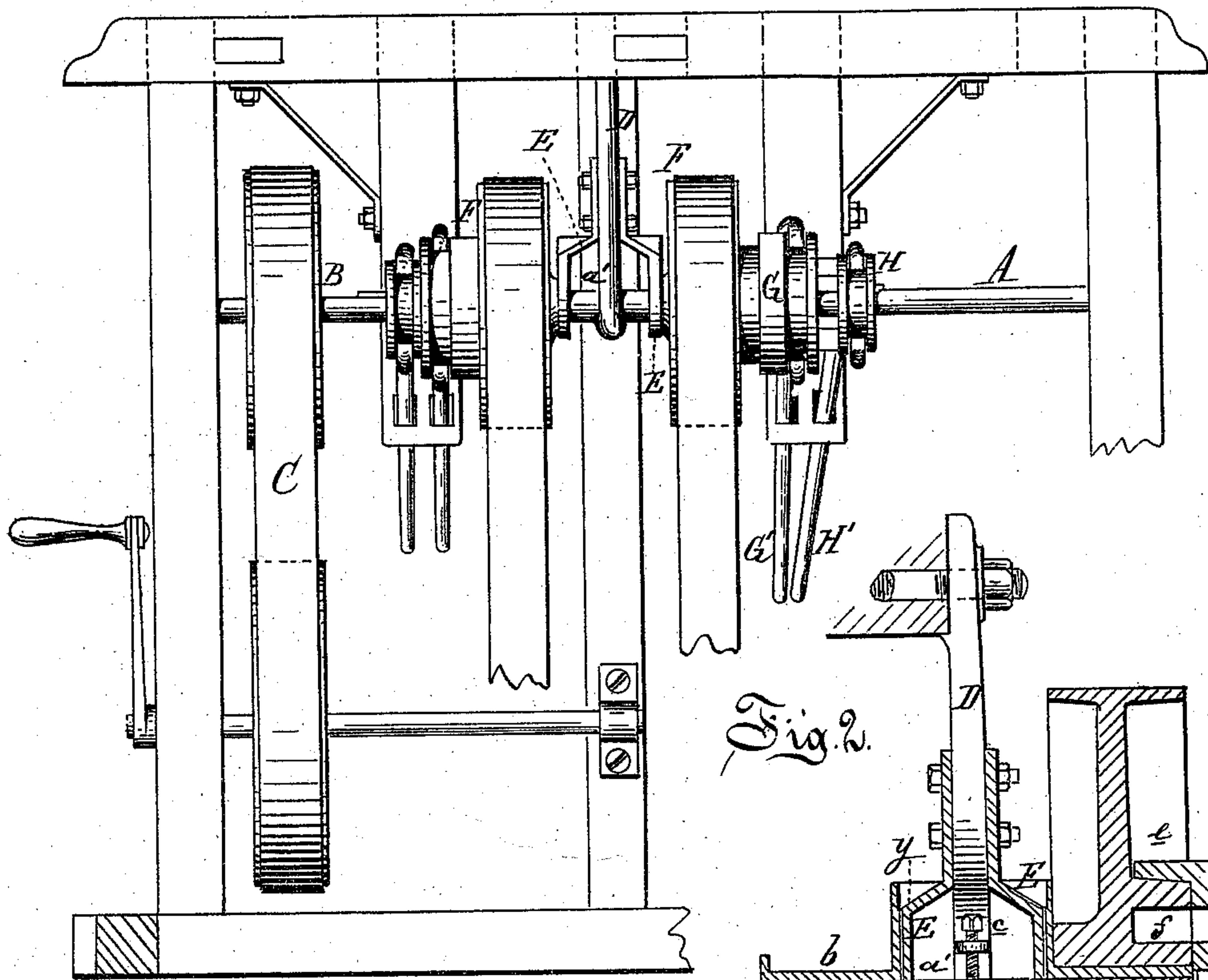


Fig. 2.

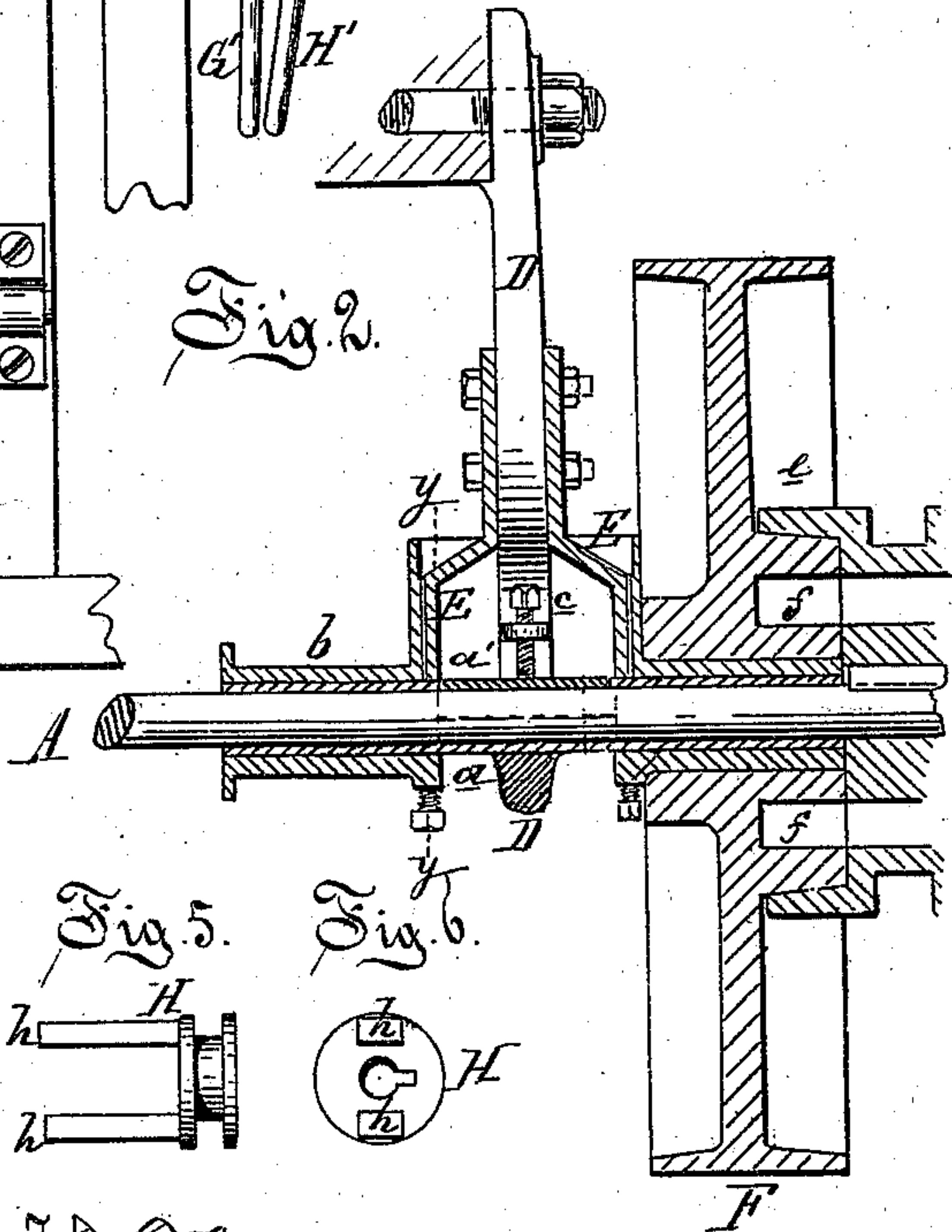


Fig. 3.

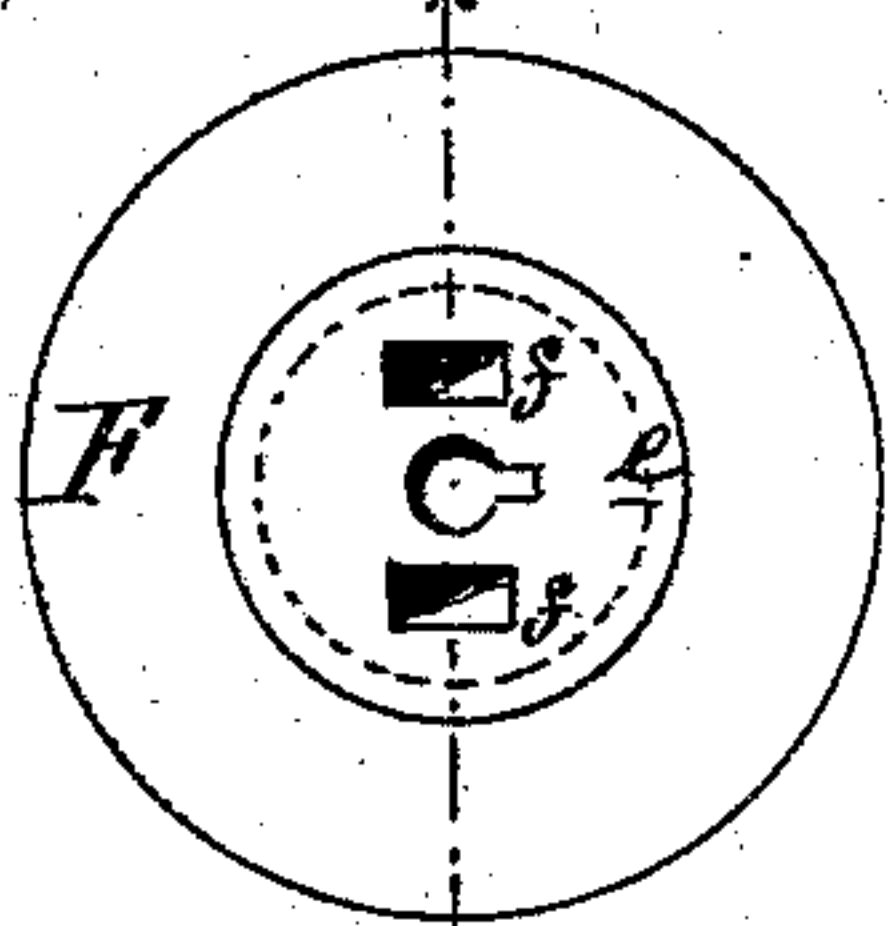


Fig. 4.

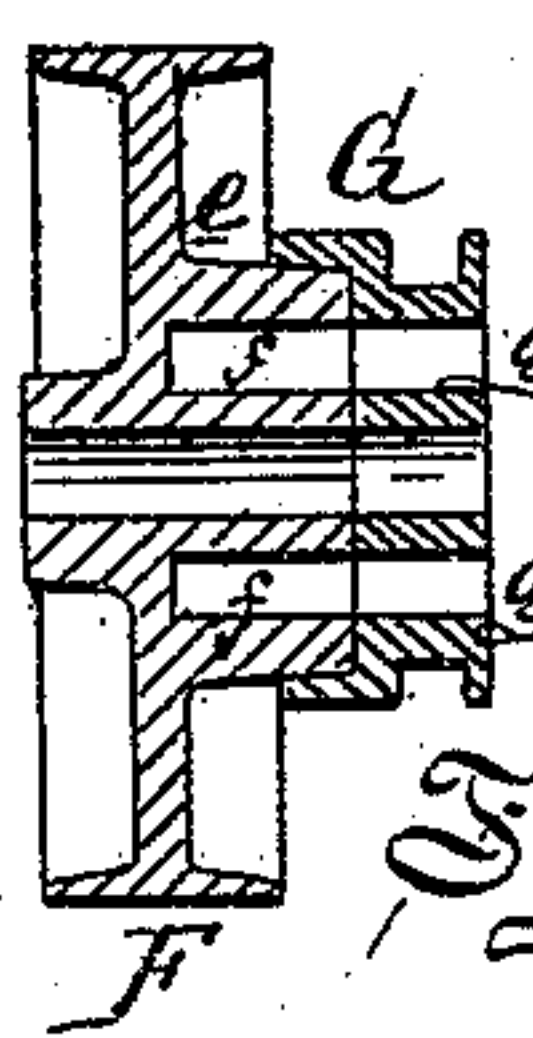


Fig. 5.

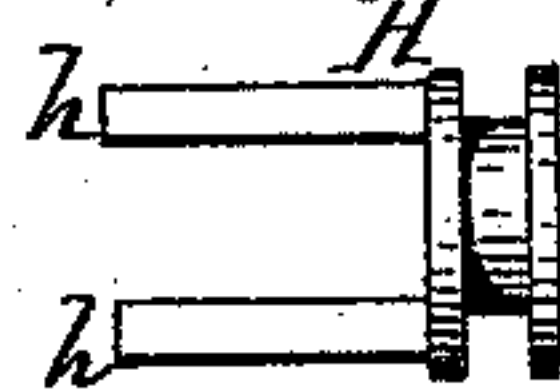


Fig. 6.

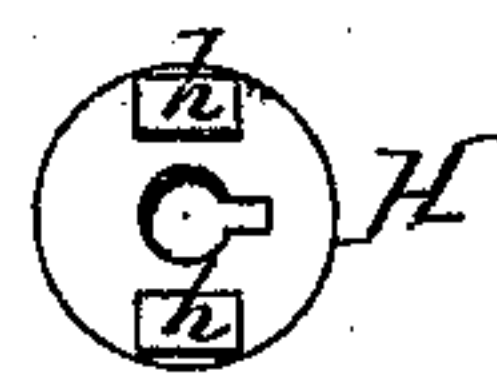
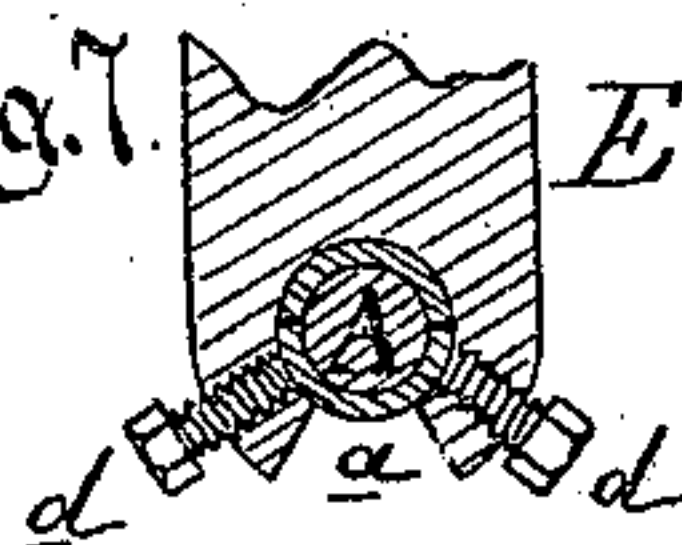


Fig. 7.



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WILLIAM GOODING, OF DETROIT, MICHIGAN.

IMPROVEMENT IN PULLEYS FOR TRANSMITTING POWER FROM LINE-SHAFTING.

Specification forming part of Letters Patent No **174,230**, dated February 29, 1876; application filed January 19, 1876.

To all whom it may concern :

Be it known that I, WILLIAM GOODING, of Detroit, in the county of Wayne and State of Michigan, have invented an Improvement in Pulleys for Transmitting Power from Line-Shafting, of which the following is a specification :

My invention relates to an improved double clutch feathered on the line-shaft, and so constructed as to start a dead-pulley mounted on an adjacent hanger-sleeve, first by friction, and then continue to rotate it by the engagement of a pin-clutch.

The object of my invention is to have all the pulleys on a line-shaft (except its driving-pulley) and their belts idle, and their weight carried by hangers, while the shaft runs continuously light, except while one or more machines are to be driven when their pulleys are then set in motion.

Figure 1 is an elevation of a line of shafting fitted in one of my improved hangers, at each side of which is hung one of my double clutches. Fig. 2 is a longitudinal vertical section of the hanger, one of the pulleys, and a part of its clutch. Fig. 3 is an elevation of the face of a pulley next the clutch. Fig. 4 is a section of the same at *x x*, with the friction-clutch engaged. Fig. 5 is a side elevation of the pin-clutch. Fig. 6 is an elevation of the pin end of the same. Fig. 7 is a cross-section of the hanger-sleeve at *y y*.

In the drawing, A represents a line shaft, having a driving-pulley B, driven by a belt, C, from any convenient source of power. D is a hanger, hooked at the lower end to receive and support the bearing *a*, in which the shaft runs. E E are two cheek-pieces, bolted to, and vertically adjustable on the hanger, one at each side thereof. They are spread or bent away from the hanger below the fastening-bolts, and then continue vertically downward parallel with its lower part; the lower end of each is cast with a horizontal sleeve, *b*, on which is mounted a pulley, F. Between the cheek-plates E a cap, *a'*, is imposed on the shaft, and is held down by a set-screw, *c*, tapped through a lug on the hanger. The bearing *a* extends into or through each sleeve *b*, and the latter is split at the bottom throughout its length, or preferably, a segment is cut out at the bottom, as seen in Fig. 7, and near the

edges of the slot so made, a set-screw, *d*, is tapped through the sleeve at each side of said slot to impinge diagonally upon the box or bearing *a*, to set the latter up to the shaft when worn down. On one side of the pulley F the hub is extended and slightly coned, as at *e*, and in the end of the cone two holes or sockets, *f*, are made. Outside the sleeve a friction-clutch, G, is feathered on the line-shaft, and is moved laterally toward or away from the pulley by a lever, G'; when said clutch G is moved up to the pulley, and engages with the cone *e*, the pulley will be set in motion easily, without jar, or throwing a sudden strain on its belt. H is a pin-clutch, also feathered on the shaft, and has two pins, *h*, which pass through two longitudinal slots *g* in the clutch G, and is moved laterally by a lever, H', by means of which it may be advanced far enough to have the pins *h* enter the sockets *f* of the pulley, doing away with the necessity of holding the lever of the friction-clutch to keep the pulley in motion. The pin-clutch should not, however, be engaged with the pulley until after the latter has been set in motion by the friction-clutch.

To stop the pulley, and the machine which it drives, the friction-clutch is moved away from the pulley by its lever, carrying the other clutch with it; the clutches will continue to revolve with the shaft, while the pulley and its belt will remain idle.

By this means I avoid the expense of idler-pulleys, relieve the shaft from the entire weight of the pulleys and belts, and effect a great saving in the wear of the latter, as they are only run when actually needed.

As the shaft runs light when no work is being done, a saving in power is thereby effected, while a lighter shaft can be employed, as it is not subject to be sprung under the weight and stress of the pulleys and belts.

What I claim as my invention is—

The friction-clutch G and pin-clutch H, feathered on the line-shaft, in combination with a pulley sleeved on the hanger-arm through which said shaft is journaled, substantially as and for the purpose set forth.

WM. GOODING.

Witnesses:

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H. S. SPRAGUE.