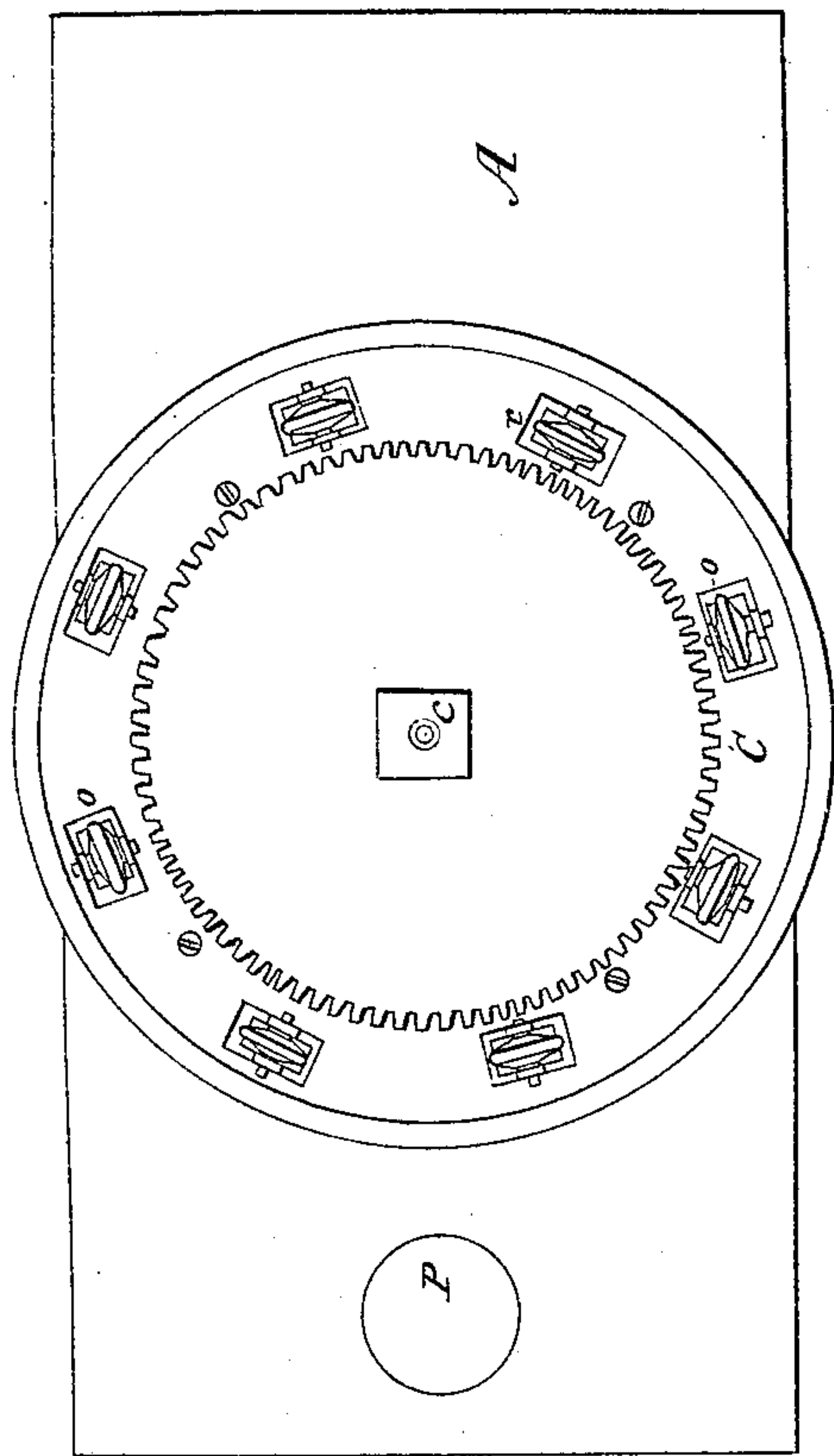


*H. Albro.*  
*Draw Bridge.*

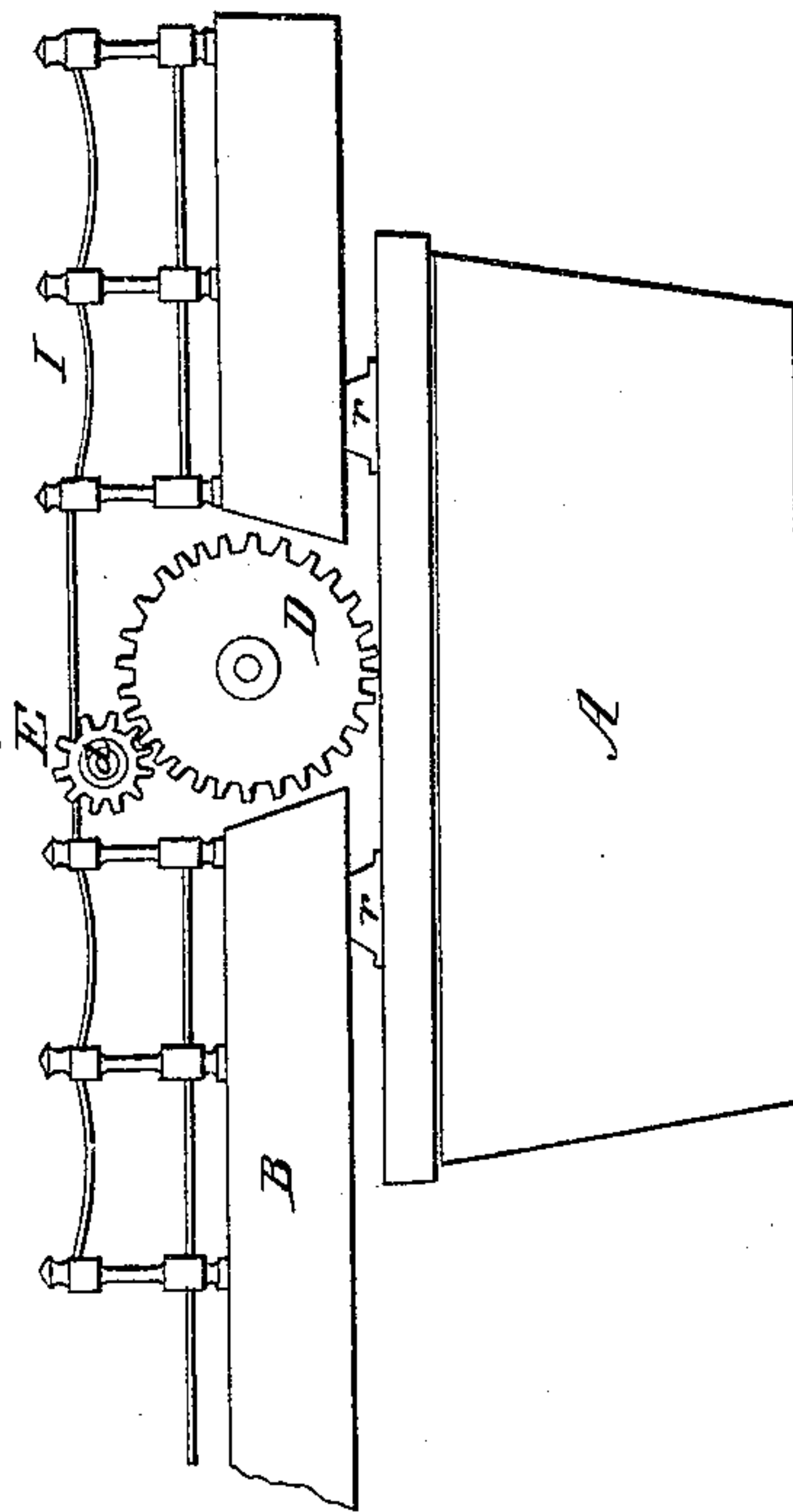
*N<sup>o</sup> 20,611.*

*Patented Jun. 22, 1858.*

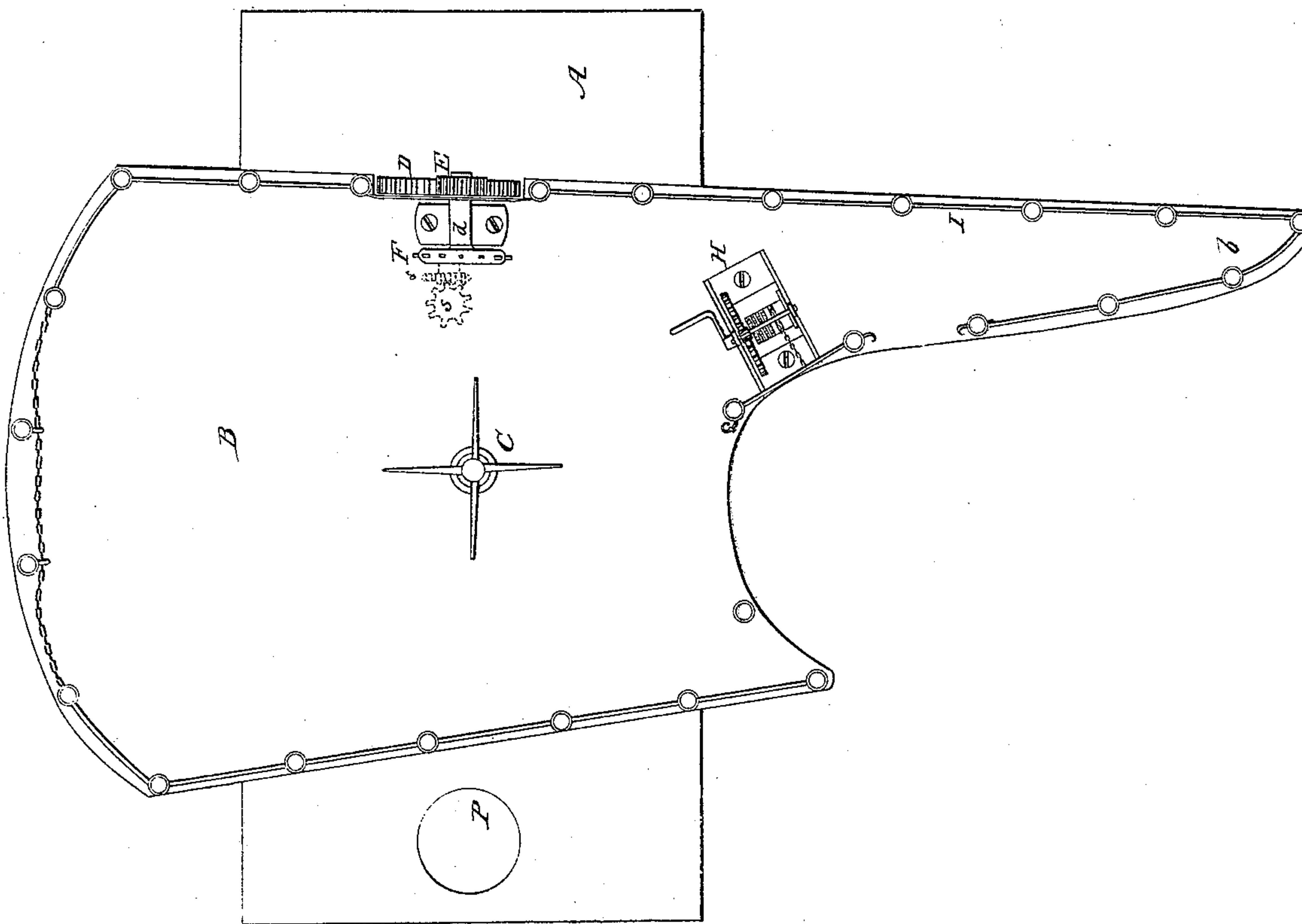
*Fig. 2.*



*Fig. 3.*



*Fig. 1.*



# UNITED STATES PATENT OFFICE.

HENRY ALBRO, OF COVINGTON, KENTUCKY.

## FLOATING REVOLVING WHARF.

Specification of Letters Patent No. 20,611, dated June 22, 1858.

*To all whom it may concern:*

Be it known that I, HENRY ALBRO, of Covington, in the county of Kenton and State of Kentucky, have invented a new and Improved Floating Dock and Swinging Pier; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The object of my invention is to facilitate the landing of vessels in unfavorable situations; and especially to enable ferry boats to make their berths endwise when a strong current or other obstacles interfere. It is so arranged that a man on shore may revolve the pier to the right or left, so that the main arm of the pier will direct the boat and receive her into her berth with ease.

In the accompanying drawings, Figure 1, is a top view of my revolving pier and floating dock. Fig. 2, is a top view of the buoy or floating dock, the revolving part being removed to show a series of friction rollers on which the pier or platform rests. Fig. 3, is a view of a portion of one side of my invention, showing the relation of the buoy to the other parts, and also part of the gearing.

My invention consists of a revolving or floating pier for facilitating the landing of vessels when currents or other obstacles interfere.

In the drawings, Fig. 1, B, represents the revolving pier or platform, with a capstan C, a windlass H, and an ordinary guard of posts and chains I. The front part of this pier is curved to receive the bow of the boat.

On one side of the berth, the pier has a projecting arm *b*, to assist in directing the boat into its berth in making the shore against the current of the river.

Under the platform B, is a buoy A, which may be of any convenient form. Upon the top of the buoy A is fastened a cog wheel G, Fig. 2 and a series of friction rollers *o*, supported by suitable bearings, *r*. The re-

volving pier B, rests upon these friction rollers *o*, and is held in place by a bolt *c*, Fig. 2, so as to revolve freely. This bolt *c*, Fig. 2, is crowned by the capstan C, Fig. 1. The cog wheel G, Fig. 2, gears into the pinion *s*, shown in dotted lines, Fig. 1. This pinion *s* is attached to the under side of the revolving platform B, and by means of a bevel gear, receives motion from the pinion *x*, which is carried by the shaft *i*, of the cog wheel D. This cog wheel D, gears into the pinion E, as is best seen in Fig. 3. By means of the wheel F, to whose shaft pinion E is attached, the cog wheel D is set in motion. Thence the motion is transmitted through pinion *x*, to pinion *s*, which, gearing into the fixed wheel G, causes the pier B to revolve. Thus the berth of the boat may be swung around to the right or to the left, so as to face the boat in whichever direction she is approaching the shore. I contemplate making my pier with the projecting arm *b*, either on the right or on the left side, according to the bank of the river where the pier is designed to be used.

In rivers affected by the tide, giving a current alternately from either way, my pier must be modified, but this change, and others demanded by peculiar circumstances form no departure from the substantial features of my invention.

Having thus fully described my invention, what I claim and desire to secure by Letters Patent of the United States is—

The revolving or floating pier above described, for changing the position of the berth of ferry boats, in order to facilitate their landing when strong currents or other obstacles interfere, the whole being constructed and employed substantially as set forth.

In testimony of which invention I hereunto set my hand.

HENRY ALBRO.

Witnesses:

GEO. H. KNIGHT,  
CHAS. GUILD.