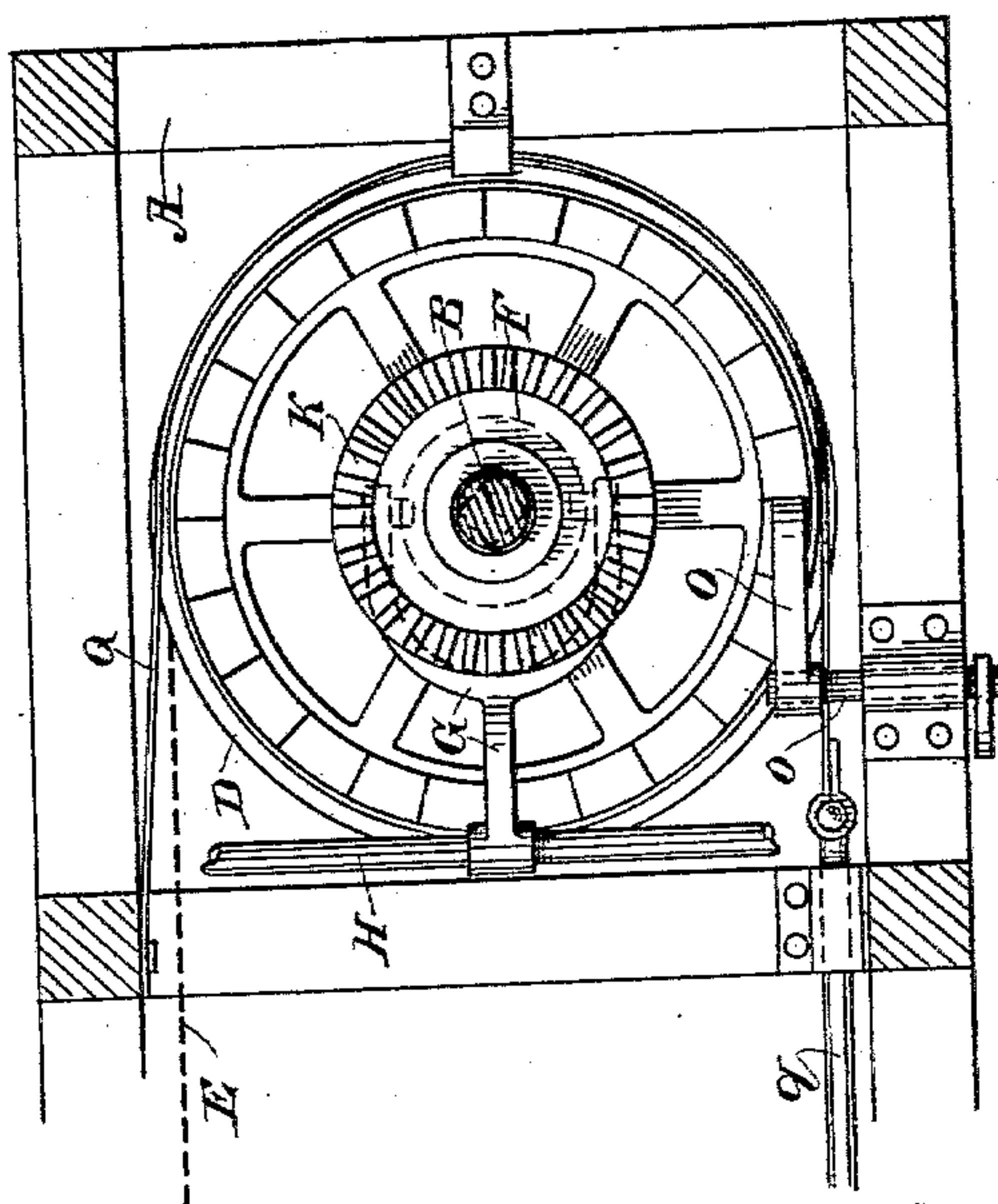
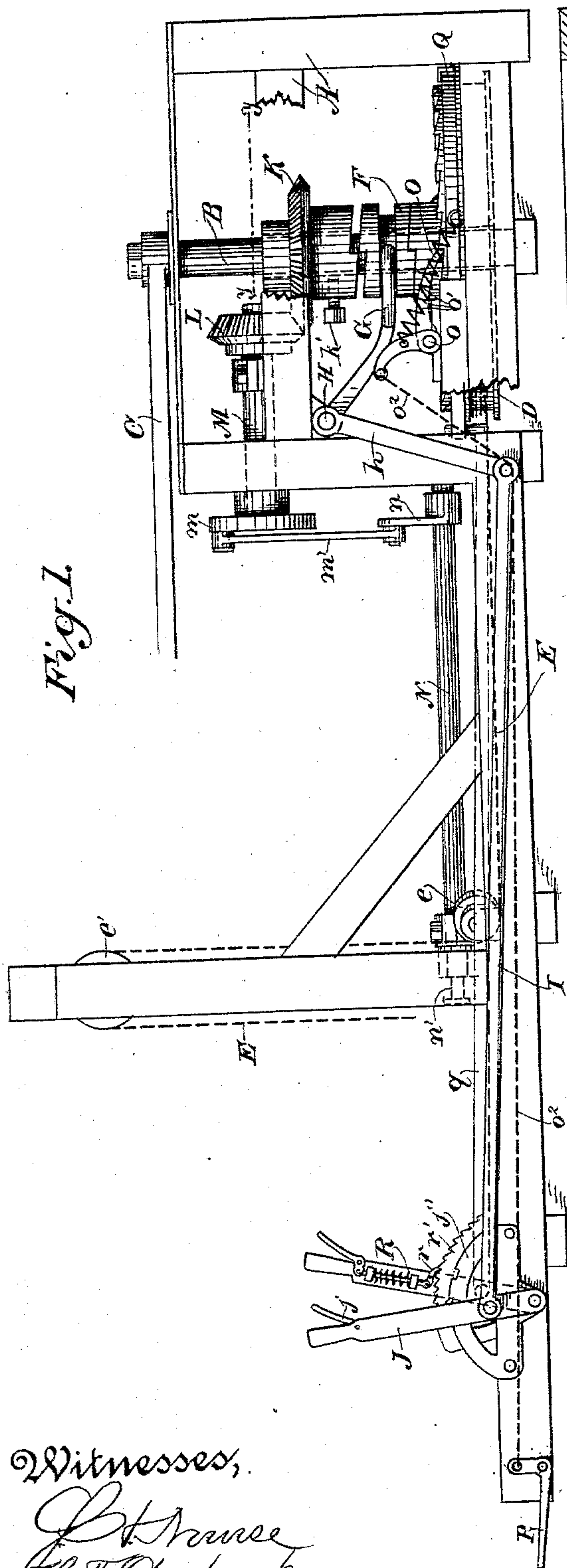


(No Model.)

F. H. NEASE.  
HOISTING AND PUMPING APPARATUS.

No. 561,723.

Patented June 9, 1896.



Witnesses,

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# UNITED STATES PATENT OFFICE.

FREDERICK H. NEASE, OF BELLEVUE, IDAHO, ASSIGNOR OF ONE-HALF TO  
FRANK BROWN, OF SAME PLACE.

## HOISTING AND PUMPING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 561,723, dated June 9, 1896.

Application filed January 6, 1896. Serial No. 574,426. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK H. NEASE, a citizen of the United States, residing at Bellevue, county of Blaine, State of Idaho, have invented an Improvement in Hoisting and Pumping Apparatus; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to the class of power mechanism adapted for either hoisting or pumping, or both; and my invention consists in the novel construction, arrangement, and combinations of parts, which I shall herein-after fully describe and claim.

The object of my invention is to provide a simple and effective apparatus designed to run a pump or to be used as a hoisting device, or to be used for both purposes when necessary, the apparatus being specially adapted for prospectors who have claims which they desire to develop sufficiently to see whether they shall be warranted in continuing the work with more perfect machinery.

Referring to the accompanying drawings, Figure 1 is an elevation of my apparatus. Fig. 2 is a plan on the line *yy* of Fig. 1.

A is a frame, in which is mounted a vertical shaft B, to which is secured a sweep C, by which horse-power may be applied to the apparatus, though it is to be understood that any suitable power may be applied to rotate the shaft. There may be one or more of these sweeps, as may be desired. Mounted freely or loosely upon the lower end of this vertical shaft is a horizontal winding-drum D, from which a hoisting-line E may extend to the well or shaft, being guided suitably, as by the pulleys *e* and *e'*, in the frame A. Mounted upon a feather or spline upon the shaft B is a clutch F, adapted, when lowered, to engage with the hub of the winding-drum D. This clutch is thrown to or from its engagement by means of a yoke G, secured to a rock-shaft H, having a crank *h*, to which is attached a connecting-rod I, operated by a hand-lever J, which said lever is controlled by a spring-pawl *j*, engaging a rack *j'*.

Loosely mounted upon the shaft B is a gear K, which meshes with a pinion L on a counter-shaft M, which has a crank *m*, to which is attached a connecting-rod *m'*, the lower

end of which is attached to a crank *n* on a shaft N, the other end of which has a crank *n'*, which may be supposed to be connected with the pump. With the hub of the gear K the clutch is adapted to be thrown into and out of engagement by the yoke G.

It will now be seen that by operating the hand-lever J so as to throw the clutch G down into engagement with the hub of the winding-drum D the hoisting mechanism will be operated, while the pumping mechanism will remain idle. By operating the hand-lever in the other direction, so as to throw the clutch up into engagement with the hub of the gear K, the pumping mechanism will be operated, while the hoisting mechanism will remain idle. Thus either of these works may be done, according as the necessity arises. If, however, it be required to do both at once, a set-screw *k'* is made to fasten the gear K to the shaft and the clutch is thrown into engagement with the winding-drum.

The change from one work to the other may be accomplished while the horses are in motion, and without stopping the movement of the apparatus.

In order to provide for the safety of the hoisting mechanism, I have a pawl O, adapted to engage with teeth on the winding-drum D. This pawl is upon a rock-shaft *o*, controlled by a spring *o'*, and said pawl is thrown out of engagement by means of a connecting-line *o''* to a foot-lever P in the vicinity of the hand-lever J. For further safety I have also a strap-brake Q, adapted to impinge upon the periphery of the winding-drum, said brake being operated by a connecting-rod *q* to a hand-lever R, which is provided with a spring-controlled pawl *r*, engaging a rack *r'*.

In cases where it is desired to use only the pumping apparatus, the winding-drum and its mechanism may be omitted in the manufacture of the device, and likewise when it is only desired to use the hoisting mechanism the pumping part of the machine may be omitted.

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

1. A hoisting apparatus consisting of a framework, a vertical rotatable shaft mount-



ed therein, a horizontally-disposed winding-drum, loosely mounted on said shaft and having teeth upon its upper surface, a slidable clutch on said shaft adapted to engage and operate the drum, a clutch-shifting mechanism comprising a rock-shaft in the frame, a yoke on the rock-shaft, adapted to embrace the clutch and having a crank, a rod connected with the free end of the crank and a lever and holding devices for this rod, a second rock-shaft on the frame, a pawl thereon adapted to engage the teeth on the winding-drum and a line extending from an arm of the pawl and a lever connected with and operating the line.

2. An apparatus consisting of a framework, a vertical rotatable shaft mounted therein, a clutch feathered upon said shaft, a gear on the shaft having a hub with a clutch-surface to be engaged by the clutch, a horizontal counter-shaft having a pinion adapted to mesh with the gear, and having a crank, a second horizontal shaft having a crank, a connection between the two cranks, and a

crank on the opposite end of the second shaft adapted for attachment to a driven mechanism.

3. A hoisting and pumping apparatus consisting of a vertically-disposed rotary shaft to which the power is applied, a horizontally-disposed winding-drum loosely mounted upon said shaft, and having a hoisting-line, a spring-controlled pawl and means for operating it to control the drum, a gear loosely mounted upon the shaft, means for fastening the gear to said shaft, and connections from said gear to operate a pump, a single clutch on the shaft adapted to be thrown alternately into and out of engagement with the winding-drum and the gear, a yoke for operating the clutch, and a lever and connections for operating the yoke.

In witness whereof I have hereunto set my hand.

FREDERICK H. NEASE.

Witnesses:

J. J. MCFADDEN,

THOMAS FENTON.