

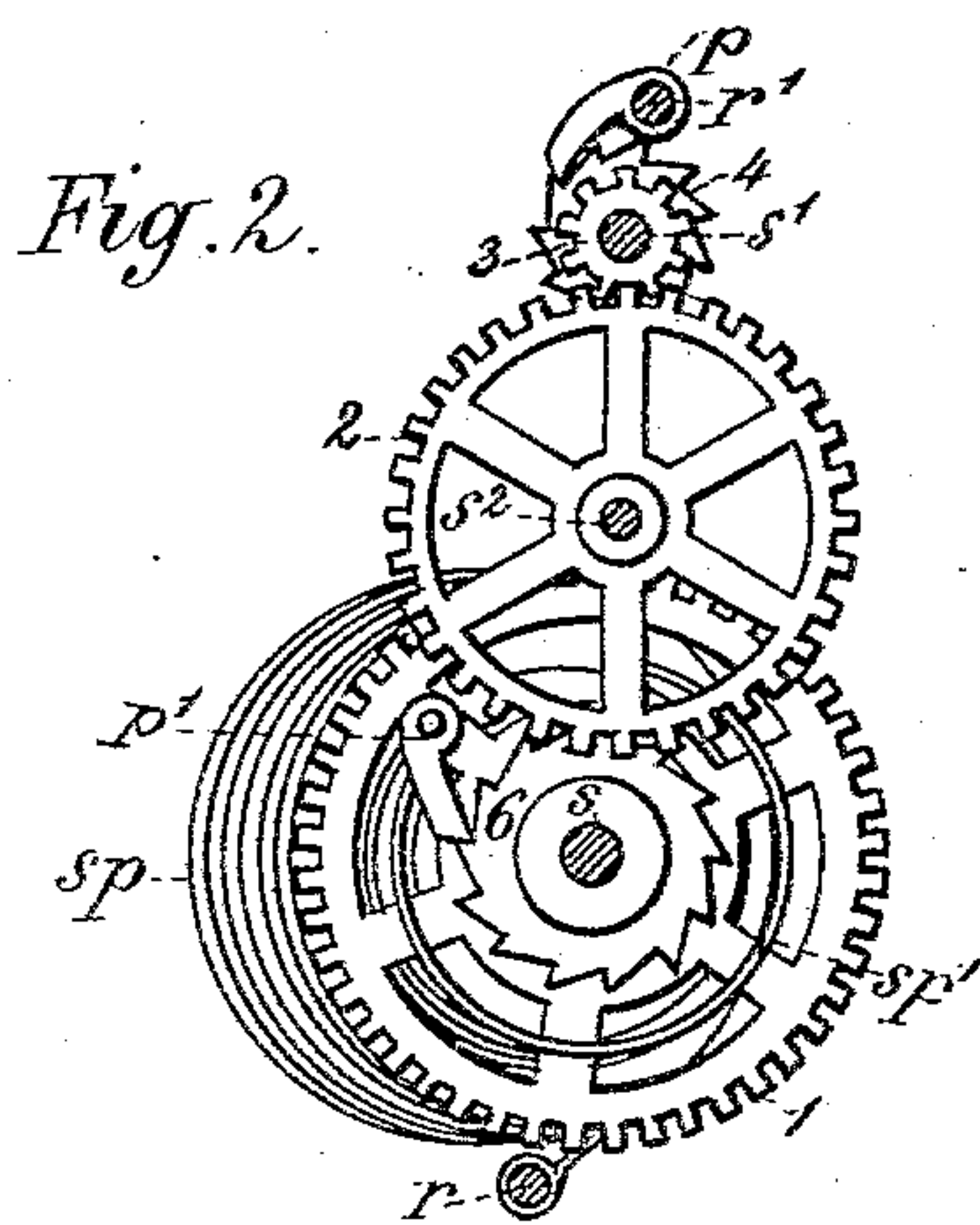
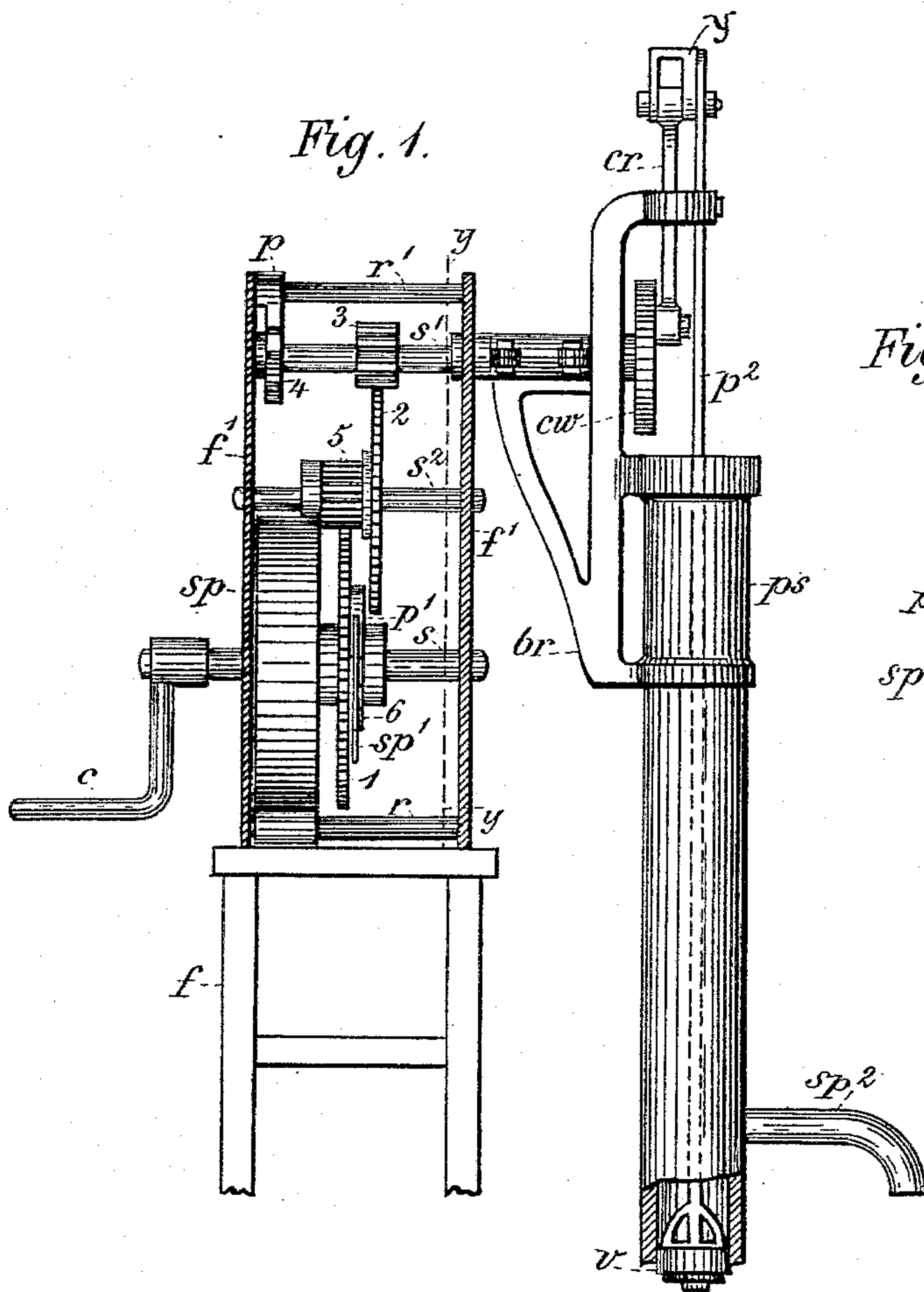
(No Model.)

C. M. REED & W. C. FRAZEE.

SPRING MOTOR FOR PUMPS.

No. 387,736.

Patented Aug. 14, 1888.



WITNESSES.

Gustav Bohn.  
Hattie Hurry.

INVENTORS.

Charles M. Reed.  
Wm. C. Frazee.  
By C. F. Jacobs  
att'y.



# UNITED STATES PATENT OFFICE.

CHARLES M. REED, OF NEAR CONNERSVILLE, AND WILLIAM C. FRAZEE, OF  
NEAR CLERMONT, INDIANA.

## SPRING-MOTOR FOR PUMPS.

SPECIFICATION forming part of Letters Patent No. 387,736, dated August 14, 1888.

Application filed November 23, 1886. Serial No. 219,707. (No model.)

*To all whom it may concern:*

Be it known that we, CHARLES M. REED, residing near Connorsville, Fayette county, and WILLIAM C. FRAZEE, residing near Clermont, Marion county, Indiana, have made certain new and useful Improvements in Pump-Driving Mechanism, a description of which is set forth in the following specification, reference being made to the accompanying drawings, in the several figures of which like letters refer to like parts.

Our invention relates to an improvement in mechanism for working ordinary suction-pumps, and will be understood from the following description.

In the drawings, Figure 1 represents a front view of our device. Fig. 2 is a view looking toward the gear mechanism on the line *y y*, Fig. 1, the ends of the shafts being shown in cross-section.

In detail, *f* is a base or support, upon which rests a frame-work, *f'*, which provides bearings for a main shaft, *s*, to which is attached a crank, *c*, and on this shaft is coiled the driving-spring *sp*, the end of the spring being secured to the stationary rod *r*. This main shaft also carries a driving-pinion, 1, and ratchet-pinion 6, with pawl *p'* and check-spring *sp'*. The main pinion 1 engages with a smaller pinion, 5, mounted on a secondary shaft, *s'*, which carries an intermediate pinion, 2, which engages with a smaller pinion, 3, mounted upon the upper shaft, *s'*, this latter shaft also carrying a ratchet-wheel, 4, and pawl *p* for stopping the movement of the mechanism when desired. When the mechanism is working, this pawl is thrown off.

*r'* is an upper rod which carries the pawl *p*.

The crank *c* is used for winding up the spring, and the elasticity of the spring as it unwinds causes the driving-pinion 1 to revolve, carrying with it the other pinions, with which it engages directly or indirectly, revolving the upper shaft, *s'*. This shaft passes through a boxing connected with a bracket, *br*, and on the end of this shaft is mounted a crank-wheel, *cw*, to the wrist-pin of which is connected a crank-rod, *cr*, which is pivoted in a yoke, *y*, at the top, and to the outside of this yoke *y* is pivoted the pitman or pump-rod *p'*, having the usual valve working at the bottom of the

pump-stock *ps*, to the top of which the bracket *br* is also connected.

*sp'* is the spout for the discharge of the water.

The mechanism operates as follows: The spring *sp* being wound up by the crank *c*, sets in motion the spur-wheels, the pawl *p* being thrown off. The revolution of the shaft *s'* operates the crank-wheel *cw*, the crank-rod *cr*, and the pitman *p'*, causing it to rise and fall in the pump-stock. The crank-wheel *cw* is made of such diameter as to allow a sufficient length of movement to the pump-rod *p'*. When it is desired to stop the mechanism before the spring has run down, the pawl *p* is thrown over the top of the ratchet 4. The driving-spring may be made strong enough to run as many hours as may be necessary.

By means of this mechanism water can be drawn without the use of either hand or wind power, and the expense of derricks and fans is avoided. If desired, the pump-rod may be connected directly to the wrist-pin of the crank-wheel; but the manner of connection herein shown is preferable.

We are aware that the use of springs to drive cog-wheels is not new, and do not broadly claim the same as our invention.

What we do claim, however, and desire to secure by Letters Patent, is the following:

A pump mechanism wherein the suction-rod is driven by means of a pitman pivoted at one end to a yoke bolted to such suction-rod, at the other to a wrist-pin upon a crank-wheel mounted on the end of a shaft supported in bearings in a suitable frame, and in boxings connected with a bracket which is connected to the top of the pump stock, the shaft connected with the crank-wheel carrying a pinion which is operated by means of a gear mechanism driven by a spring coiled about the main shaft, all combined substantially as described.

In witness whereof we have hereunto set our hands, at Indianapolis, Indiana, this 9th day of November, 1886, in the presence of witnesses.

CHAS. M. REED.  
WM. C. FRAZEE.

Witnesses:

C. P. JACOBS,  
HATTIE HENRY.