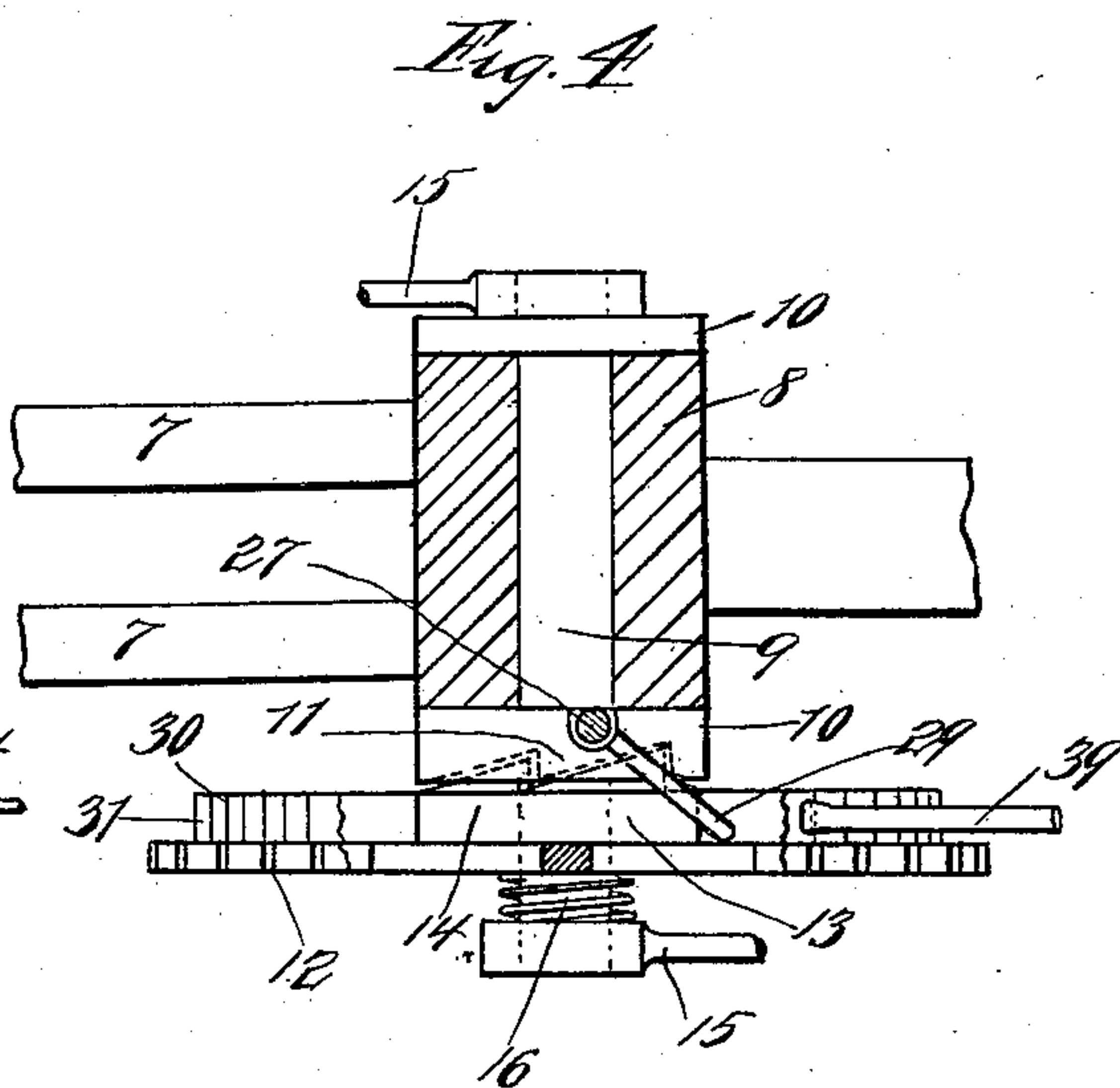
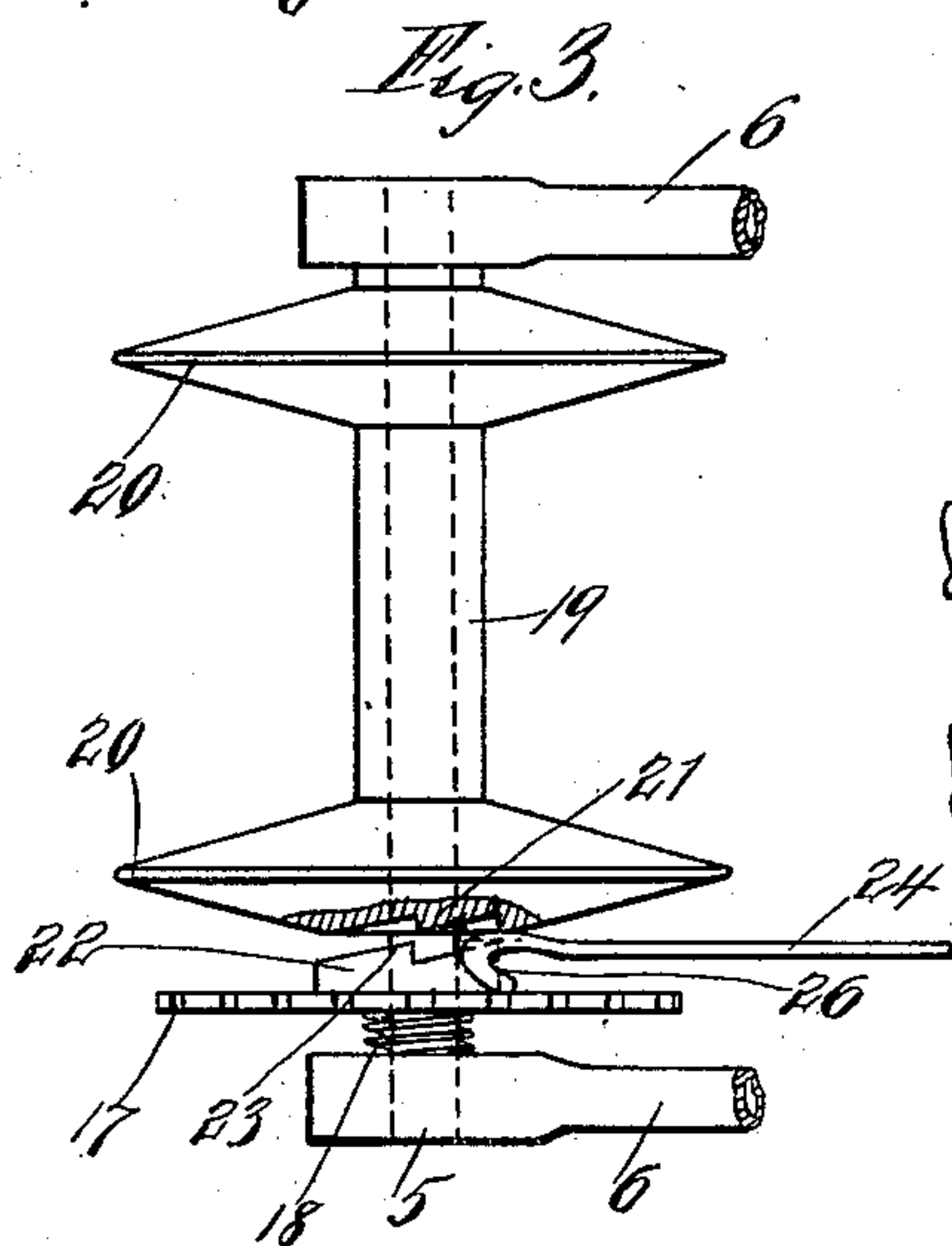
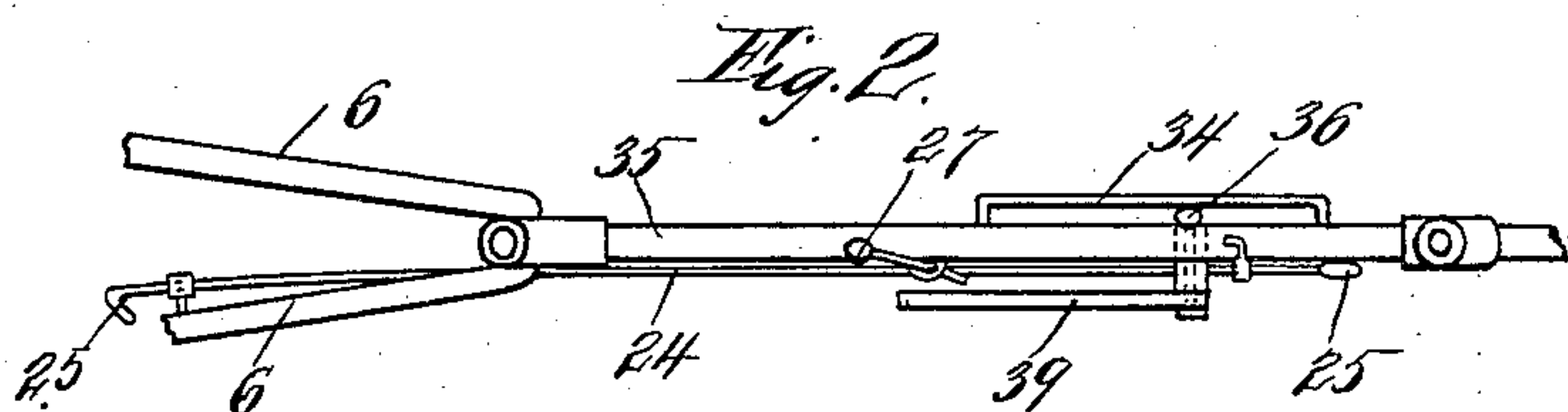
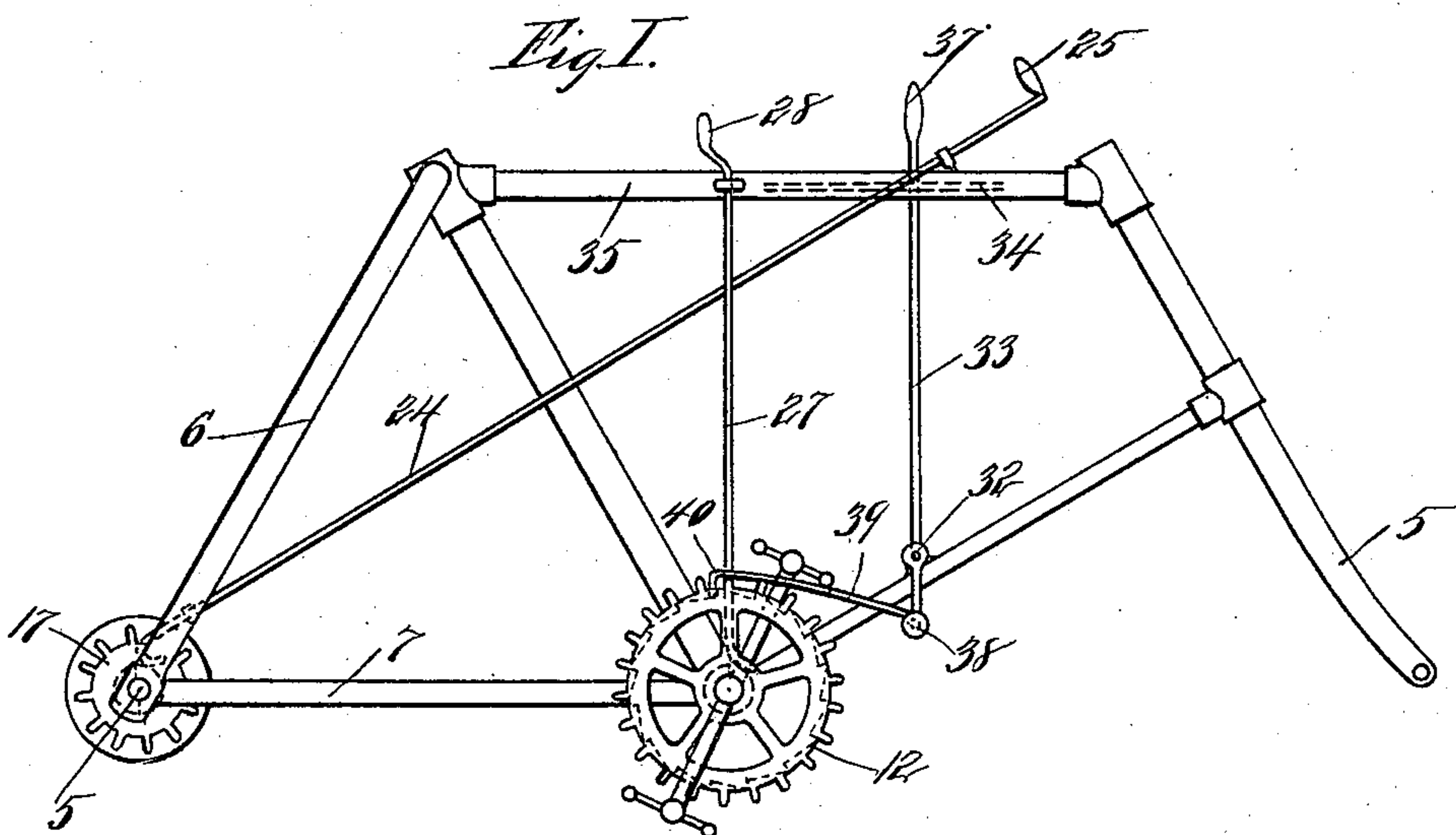


(No Model.)

W. F. STOLL.
BICYCLE.

No. 587,069.

Patented July 27, 1897



WITNESSES

C. Gerst
L. D. Harkshush

INVENTOR

William F. Stoll.
BY
Edgar Tate & Co.
ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM F. STOLL, OF POCAHONTAS, VIRGINIA.

BICYCLE.

SPECIFICATION forming part of Letters Patent No. 587,069, dated July 27, 1897.

Application filed December 4, 1896. Serial No. 614,437. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. STOLL, a citizen of the United States, residing at Pocahontas, in the county of Tazewell and State of Virginia, have invented certain new and useful Improvements in Bicycles and Similar Vehicles, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to bicycles and similar vehicles; and the object thereof is to provide a vehicle of this class with sprocket-wheels which are revolubly mounted on the shaft of the drive-wheel and on the pedal-shaft and which are adapted to engage, respectively, with the hub of the drive-wheel and with a disk or head on the pedal-shaft and to be disconnected from said engagement, whereby the drive-wheel may be allowed to revolve without turning the sprocket-wheels.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which—

Figure 1 is a side view of a portion of the frame of an ordinary bicycle provided with my improvement and showing the sprocket-wheels and pedals and pedal-shaft connected therewith; Fig. 2, a plan view of the same with the sprocket-wheels, pedals, and pedal-shaft removed; Fig. 3, a sectional plan view of the supports for the shaft of the drive-wheel, showing my improved construction connected therewith; and Fig. 4, a similar view of the support of the pedal-shaft and the parts connected therewith.

In the drawings forming part of this specification the separate parts of my improvement are indicated by the same numerals of reference throughout the several views, and in said drawings I have shown in Fig. 1 the main parts of the frame of a bicycle, said frame being of the usual "diamond" form and being provided with the shaft 5, on which the drive-wheel is mounted and with the ends of which are connected upright rods 6, which extend upwardly to the seat-support, and the horizontal rods 7, which extend from the lower ends of the rods 6 forwardly to the support of the pedal-shaft.

The forward ends of the rods 7 are connected with the usual hub 8, through which

passes the pedal-shaft 9, and the hub 8 is provided at each end with a disk or head 10, one of which is provided on its outer side with ratchet-teeth 11, as shown in Fig. 4, and revolubly mounted on one end of the pedal-shaft 9 is the ordinary sprocket-wheel 12, which is provided on its inner side with a hub 13, on which are formed ratchet-teeth 14, which are adapted to engage with the teeth 11 on the end of the disk or head 10.

The pedal-shaft 9 is provided at each end with the usual pedal-cranks 15, the heads of which are secured to the ends of the shafts, and between the head of the pedal-crank adjacent to the sprocket-wheel 12 is mounted a spiral spring 16, and the function of this spring is to force the sprocket-wheel 12 inwardly, so that the ratchet-teeth on the hub 5 will engage with those on the disk or head 10 on the pedal-shaft. The rear sprocket-wheel 17 is also revolubly mounted on the shaft of the drive-wheel of the vehicle, and between said sprocket-wheel and the adjacent side rod of the frame is a spiral spring 18, which operates to force said sprocket-wheel inwardly, and in Fig. 3 I have shown at 19 the hub of the drive-wheel, which is provided at its opposite ends with circular disks 20, with which the spokes of the wheel are connected, and one of said disks is provided on its outer side with ratchet-teeth 21, and the sprocket-wheel 17 is provided on its inner surface with a hub 22, which is provided with ratchet-teeth 23, which are adapted to engage with the ratchet-teeth 21, and in practice the spring 18 forces the sprocket-wheel 17 inwardly, so that the ratchet-teeth 21 and 23 engage, as hereinbefore described.

Revolubly mounted in suitable keepers connected with the frame is a rod 24, which extends upwardly and forwardly from the support of the drive-wheel and which is provided at its upper end with a handle 25, which projects at right angles thereto, and at its lower end with a curved or hook-shaped head 26, and in the normal position of the parts the sprocket-wheel 17 on the shaft of the drive-wheel is forced inwardly by the spring 18 and the hub thereof engages with the hub of said drive-wheel and said parts are held together, and this is also true of the sprocket-wheel 12 and the disk or head 10 on the pedal-shaft,

and the operation of these parts will be the same as in bicycles or similar vehicles of the usual construction. I also provide a vertically-supported rod 27, which is mounted in
 5 suitable keepers connected with the frame and which is provided at its upper end with a crank 28 and at its lower end with an arm 29, which is adapted to bear on the inner side of the sprocket-wheel 12, and by turning the
 10 rod 27, by means of the crank 28, the sprocket-wheel 12 will be forced outwardly on the pedal-shaft and disconnected from the disk or head 10, and said sprocket-wheel will revolve independently of the pedal-shaft in the same man-
 15 ner as the sprocket-wheel 17 on the shaft of the drive-wheel.

By turning the rod 24 by means of the crank or handle 25 the sprocket-wheel 17 is disconnected from the hub of the drive-
 20 wheel, and whenever it is desired to "coast" or when the vehicle is going downhill both the sprocket-wheels may be thrown out of gear, as described, and the drive-wheel will revolve independently of said sprocket-wheels and
 25 the drive-chain and the pedals may be held stationary. I also provide means for revolving the sprocket-wheel 12 by hand, and for this purpose I form thereon, on the inner side thereof, a flange or rim 30, which is provided
 30 with ratchet-teeth 31, and pivoted to one of the rods of the frame at 32 is a lever 33, which extends upwardly through a longitudinal keeper 34, secured to the upper horizontal rod 35 of the frame.

35 The lever 33 is provided at its upper end with a handle 37, and pivotally connected with the lower end thereof, at 38, is an arm 39, which is provided at its free end with a downwardly-directed hook or projection 40, and
 40 by moving the upper end of the lever 33 forwardly and backwardly the arm 39 of said lever will revolve the sprocket-wheel 12, the hook 40 opening in connection with the ratchet-teeth 31.

45 My invention is not limited to the exact form and construction of the rods 24 and 27,

and said rods may be connected with the frame in any desired manner, the only object in this connection being to so form said rods and to
 50 connect them with the frame in such manner that they may be operated so as to break the connection between the sprocket-wheel 17 and the hub of the drive-wheel and between the sprocket-wheel 12 and the disk or head 10 on
 55 the pedal-shaft, and it will also be apparent that other changes in and modifications of the construction herein described may be made without departing from the spirit of my invention or sacrificing its advantages.

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

The combination with the pedal-shaft, and the shaft of the drive-wheel of a bicycle or similar vehicle, of a sprocket-wheel revolubly
 65 mounted on each of said shafts, said sprocket-wheels being each provided at its inner surface with ratchet-teeth which are adapted to engage with ratchet-teeth formed on the hub of the drive-wheel, and on a disk or head se-
 70 cured to the pedal-shaft, a spring mounted on each of said shafts for forcing the said wheels inwardly, and means connected with the frame of the vehicle for forcing said wheels outwardly, the sprocket-wheel on the
 75 pedal-shaft being also provided on its inner side with an annular flange or rim having ratchet-teeth formed thereon, and said frame of the vehicle being provided with a lever having a pivoted arm which is adapted to op-
 80 erate in connection with said ratchet-teeth for revolving said sprocket-wheel, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in pres-
 85 ence of the subscribing witnesses, this 26th day of November, 1896.

WILLIAM F. STOLL.

Witnesses:

W. E. BURNETT,
 W. W. FRENCH.