No. 864,923. PATENTED SEPT. 3, 1907.

C. A. L. SAUNDERS.

SCOURING WHEEL OR THE LIKE.

APPLICATION FILED AUG. 9, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

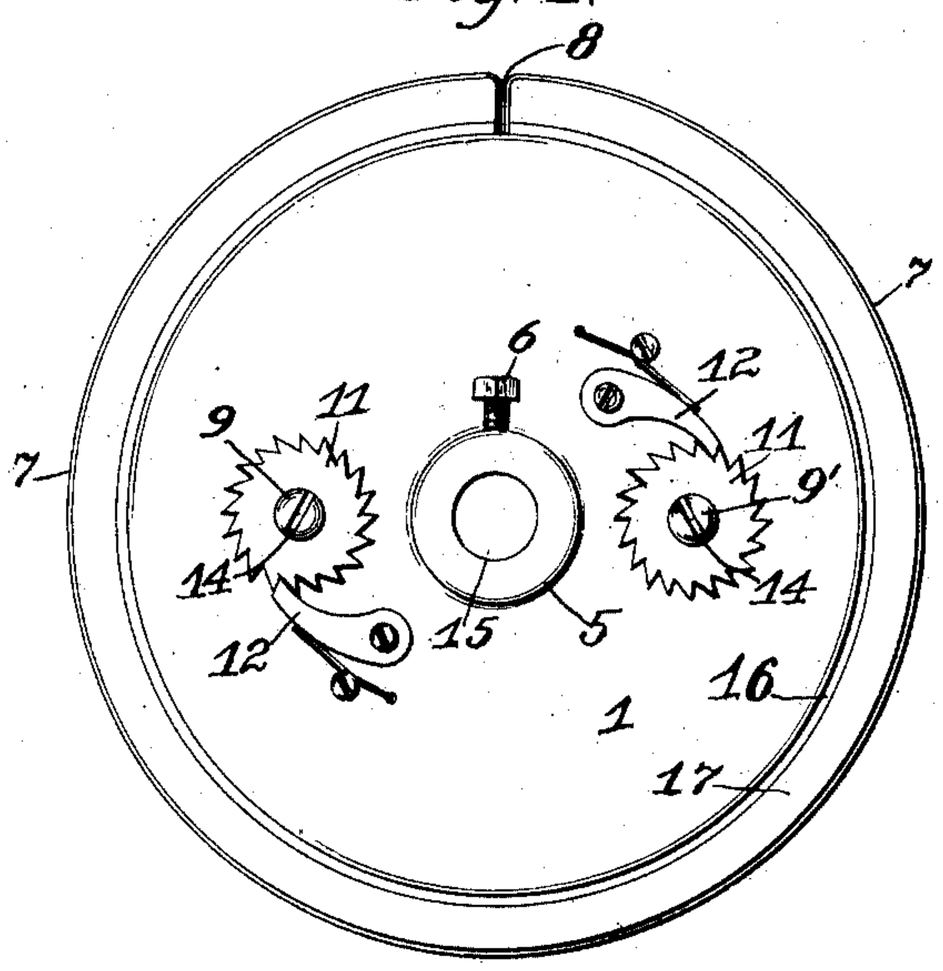


Fig. 2.

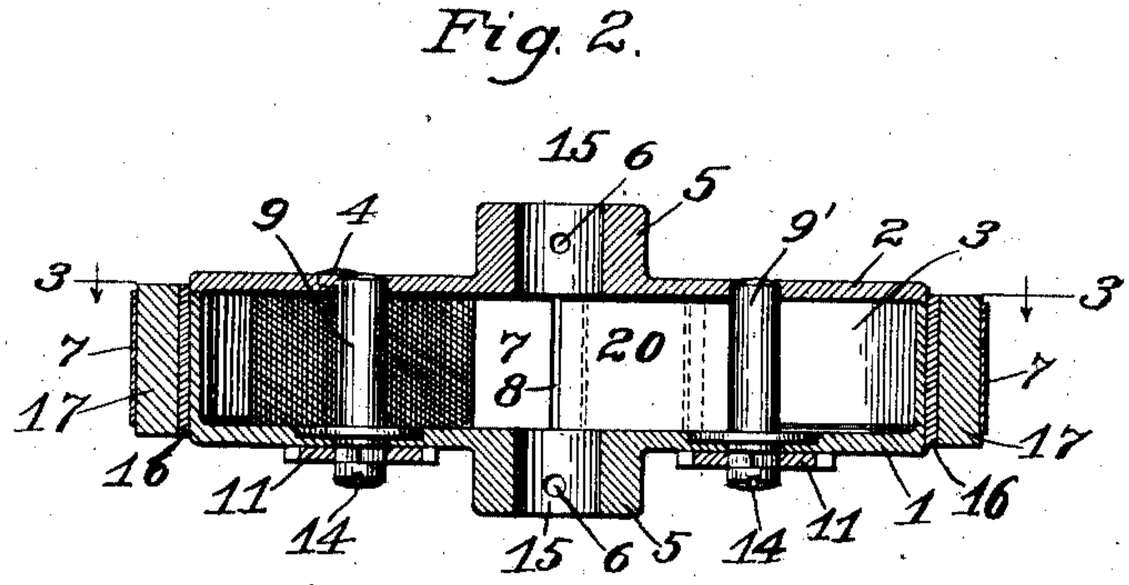
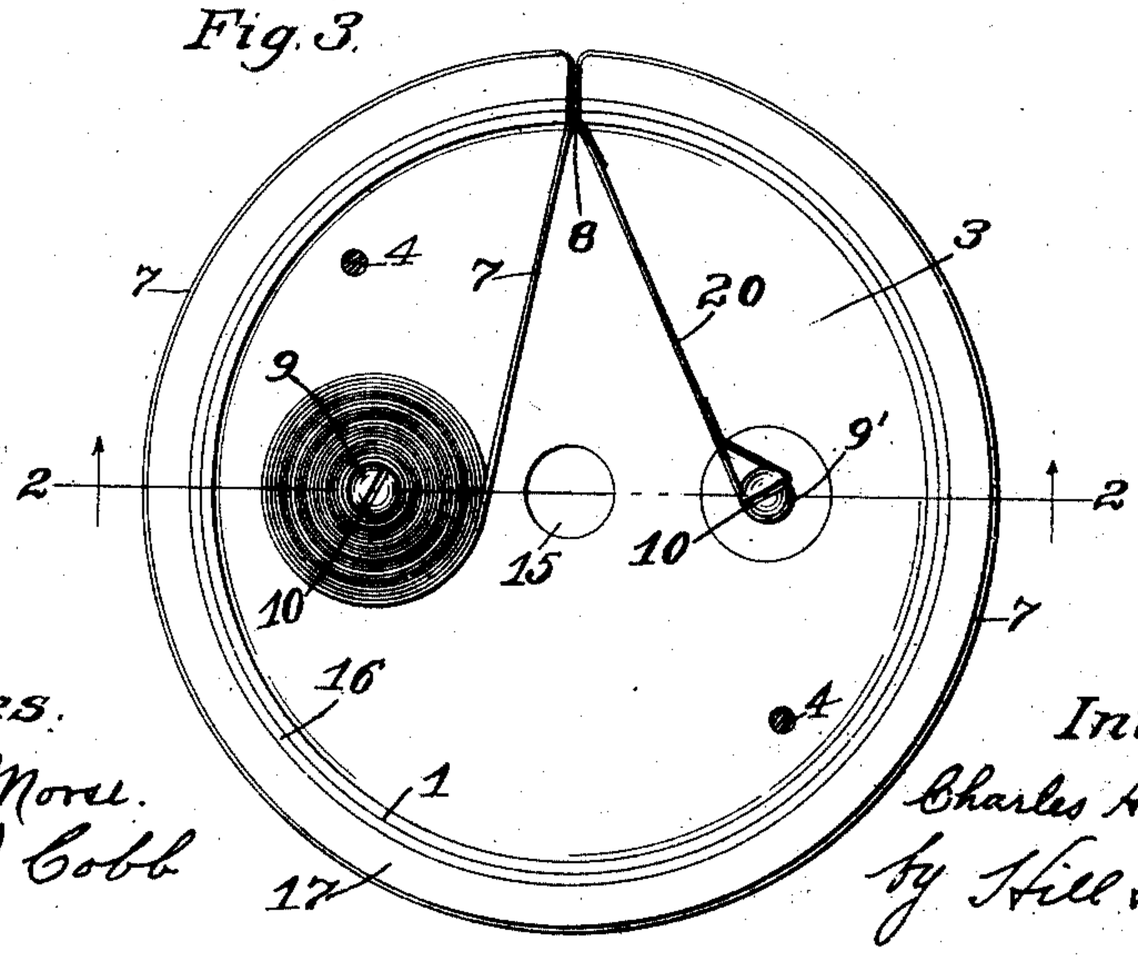


Fig. 3.



Witnesses.
Geo. H. Moore.
Charles I. Cobb

Inventor:
Charles A. L. Saunders,
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2 SHEETS—SHEET 2.

Fig. 4.

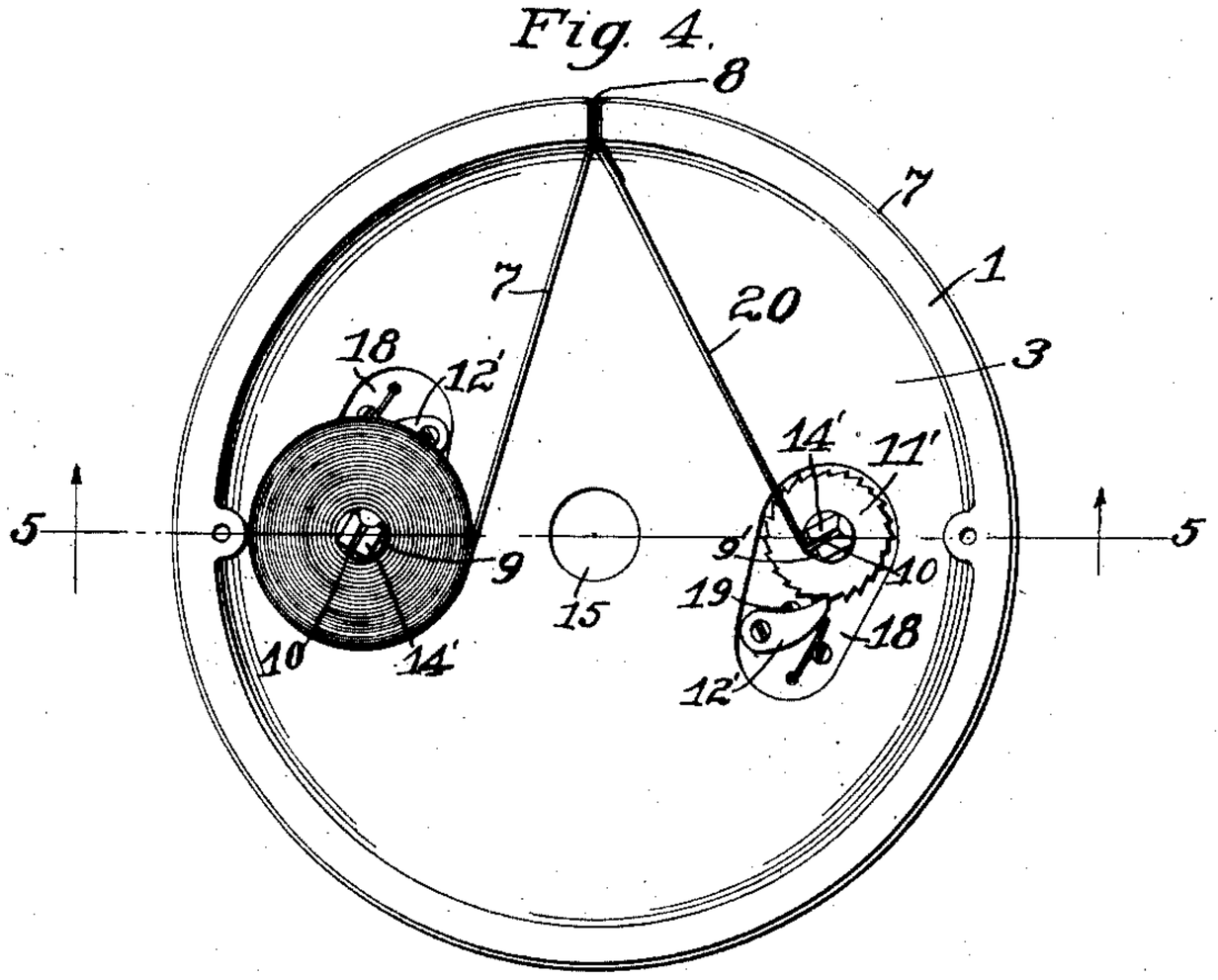


Fig. 5.

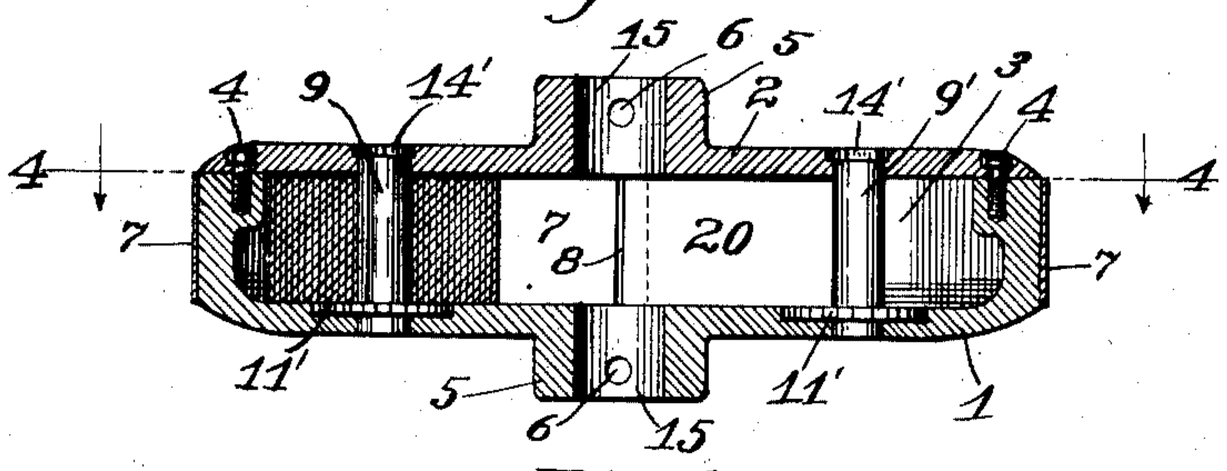
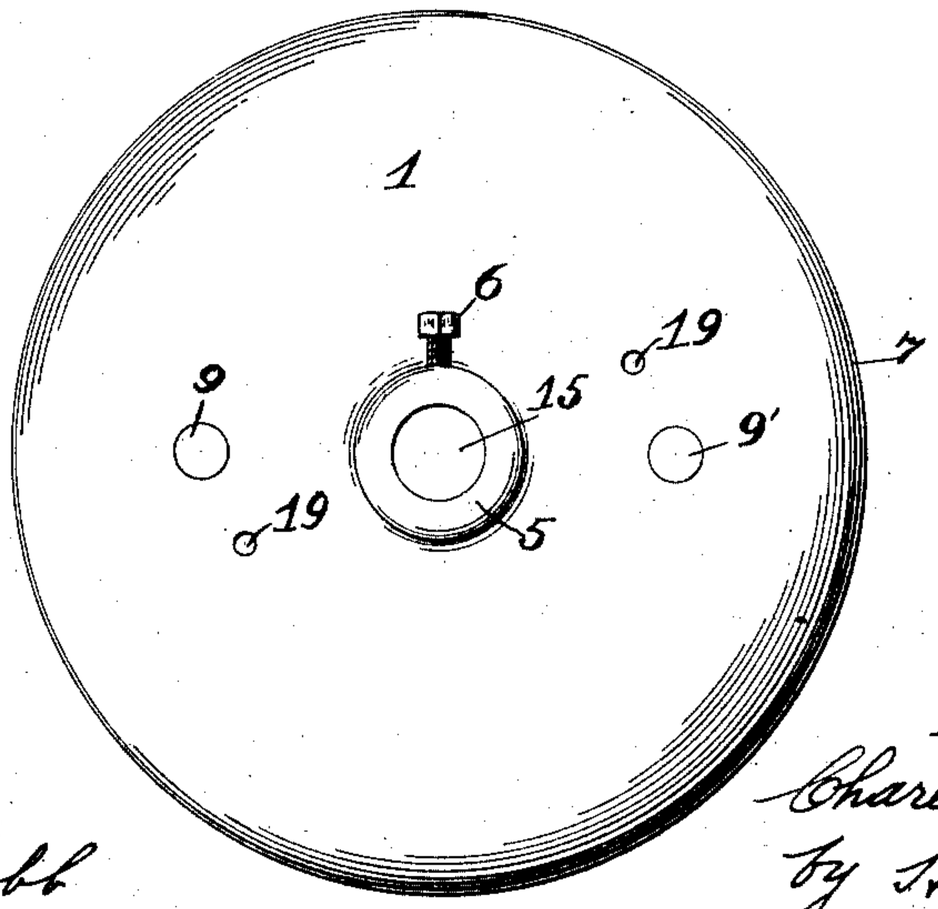


Fig. 6.



Witnesses:

Geo. H. Moore.

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UNITED STATES PATENT OFFICE.

CHARLES A. L. SAUNDERS, OF ELGIN, ILLINOIS.

SCOURING-WHEEL OR THE LIKE.

No. 864,923. Specification of Letters Patent. Patented Sept. 3, 1907.

Application filed August 9, 1906. Serial No. 329,806.

To all whom it may concern:

Be it known that I, CHARLES A. L. SAUNDERS, a citizen of the United States, residing at Elgin, county of Kane, and State of Illinois, have invented certain new and useful Improvements in Scouring-Wheels or the Like, of which the following is a description.

My invention relates to grinding, polishing, or abrading wheels, in which the abrading material is so mounted upon the wheel that it may be removed and a new surface substituted when desired without damage to the wheel body.

The object of my invention is to provide a simple, convenient and economical device of the kind described and one in which if desired sufficient surface material may be stored within the wheel to renew the abrading surface a number of times with comparatively no loss of time or material.

To this end my invention consists in the novel construction, arrangement, and combination of parts herein shown and described and more particularly pointed out in the claims.

In the accompanying drawings wherein like or similar reference characters indicate like or corresponding parts; Figure 1 is an elevation of my device. Fig. 2 is a section taken substantially on line 2—2 of Fig. 3. Fig. 3 is a section taken substantially on line 3—3 of Fig. 2. Fig. 4 is a section taken substantially on line 4—4 of Fig. 5 showing a slightly modified form of my device. Fig. 5 is a section taken substantially on line 5—5 of Fig. 4; and Fig. 6 is an elevation of the form shown in Figs. 4 and 5.

My device consists ordinarily of a hollow wheel provided with means for mounting the same upon a shaft when in use and about the periphery of which a strip of sand-paper, emery-cloth, or other suitable abrading material may be tightly drawn with its ends firmly secured within the wheel.

In the form of my device shown in the drawings the wheel consists preferably of the parts 1 and 2 inclosing a chamber 3 between them, the chamber being shown principally in the part 1 with the part 2 serving merely as a cover attached to the part 1 by screws 4—4 or other suitable means so that the parts will not become separated or misplaced when not in use.

Any suitable means may be provided for mounting my device upon a shaft, or mandrel. As shown hubs 5—5 are provided upon the parts 1 and 2 with a central opening 15 of suitable size to receive the shaft, and set-screws 6—6 or other suitable means for rigidly securing the same to the shaft.

The chamber 3 may be of any desired form but is preferably circular, concentric with the wheel, and slightly deeper than the width of the flexible strip or sheet of abrading material 7 used upon the wheel. A slot 8 extends from the chamber 3 to the periphery of the wheel and the rim at each side of the slot is slightly rounded or at least the sharp corner removed to prevent injury to the strip 7 when tightly drawn about the wheel with both ends extending through the slot into the chamber 3.

Any suitable means may be provided within the chamber 3 for securing the ends of the strip 7. As shown two spindles 9 and 9′ each provided with a part 14 adapted to be engaged by a wrench or equivalent means are rotatably mounted upon the parts 1 and 2 extending across the chamber 3 parallel with the axis of the wheel, that part of each spindle within the chamber 3 being provided with a slot 10 or other suitable means for positively engaging the strip 7 which may be looped as shown in Fig. 3 or otherwise arranged to provide a positive attachment with the spindles. A ratchet wheel 11 is provided upon each spindle and a spring actuated pawl 12 for each ratchet is mounted upon the part 1 in position to coöperate with the ratchet to normally control the direction of rotation of each spindle. When so arranged it is obvious that each spindle may be employed both as a winch to tightly draw the strip 7 about the periphery of the wheel and also as a reel upon which a considerable length of the strip 7 may be stored so that, when the abrading material exposed upon the wheel becomes worn and requires renewal the spindles may be operated to unwind or give out a portion of the unused strip stored within the chamber and draw in that which has become worn to renew the abrading surface of the wheel without opening the chamber or waste of material as the end of the worn portion of the strip 7 may be brought just to the slot and thus wear out every portion of the strip.

Obviously in the above described manner all of the abrading surface of the strip 7 may be fully used except that part at each end extending from each spindle to the periphery of the wheel at the slot and in the form shown a strap or end 20 of suitable length to reach from the slot to the spindle and provided with suitable means for engaging the spindle is attached to each end of the strip 7 so that every part of the abrading strip may be used.

In Figs. 1 and 3 a pad or cushion consisting of a ring 16 of leather is secured directly to the periphery of the wheel, a ring 17 of felt outside of, and secured to the leather affording a soft and slightly yielding backing for the strip 7. When thus prepared the wheel is especially desirable as a scouring wheel for use upon leather goods or for any purpose where a slightly yielding surface is desirable.

In Figs. 4 to 6 a slightly modified form of my device is shown in which the ratchets 11′ and pawls 12′ are positioned within the chamber 3 preferably in recesses 18—18 formed in the member 1; and openings 19—19 are provided to afford access to the pawls so that either spindle may be rotated to unwind the strip 7 if desired.

In this form also the cushions 16 and 17 are omitted and the strip 7 is drawn down directly upon the periphery of the wheel.

Obviously however if desired a cushion similar to that described or of any desired construction may be employed with the form of wheel shown in Figs. 4 to 6 or other slight modifications may be made in my device without departing from the spirit of my invention, hence I do not wish to be understood as limiting myself to the exact form or construction shown.

What I claim as new, and desire to secure by Letters Patent is:

1. A device of the kind described, comprising a wheel provided with a chamber, and a slot extending from said chamber to the periphery of the wheel, in combination with a pair of rotatable spindles positioned within said chamber, and each attached to one side only of said wheel, means for rotating said spindles, means to normally prevent said spindles from rotating in one direction, and means for attaching said wheel in position.

2. A device of the kind described, comprising a wheel provided with a chamber, and a slot extending from said chamber to the periphery of the wheel, in combination with rotatable spindles positioned within said chamber each spindle permanently attached to one side only of said wheel and loosely supported in the opposite side means for attaching a flexible strip to each spindle, means for rotating said spindles, means to normally control the direction of rotation of said spindles, and means for attaching said wheel in position.

3. In a device of the kind described, a wheel provided with a chamber, and a slot extending from said chamber to the periphery of the wheel, in combination with a plurality of rotatable spindles extending across said chamber, each spindle permanently secured to one wall only of said wheel and adapted to carry a roll of flexible material, means for said spindle for positively engaging one end of said flexible strip, a ratchet and pawl for each spindle, positioned within the chamber for controlling the direction of rotation of the spindles, and means for engaging said spindles to rotate the same.

4. In a device of the kind described, a two part wheel having a chamber between the parts with a slot extending to the periphery of the wheel, a pair of spindles rotatably attached to one part only of said wheel, each spindle adapted to support a roll of flexible material within the chamber, and means for controlling the positions of said spindles.

5. In a device of the kind described, a two part wheel comprising a recessed part, and a flat part adapted to close the open side of said recess, said recessed part having a slot extending from said recess to the periphery of the wheel, in combination with a plurality of rotatable spindles extending across said recess, each attached to the flat part only of said wheel, with means in the recessed part for loosely supporting the free end of said spindles, and means to control the direction of rotation of said spindles.

In testimony whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

CHARLES A. L. SAUNDERS.

Witnesses:
W. H. FORD,
T. J. SMITH.