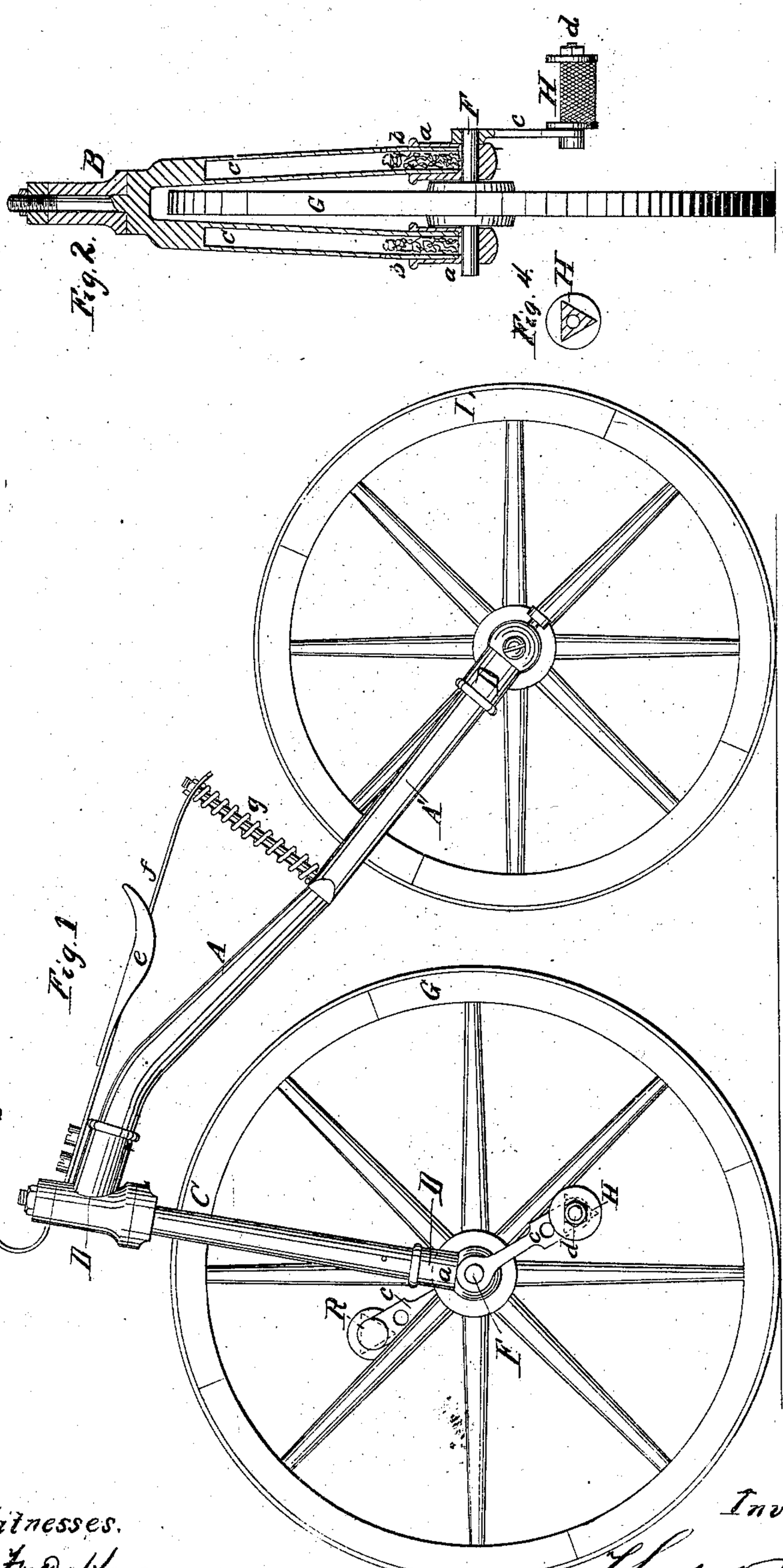
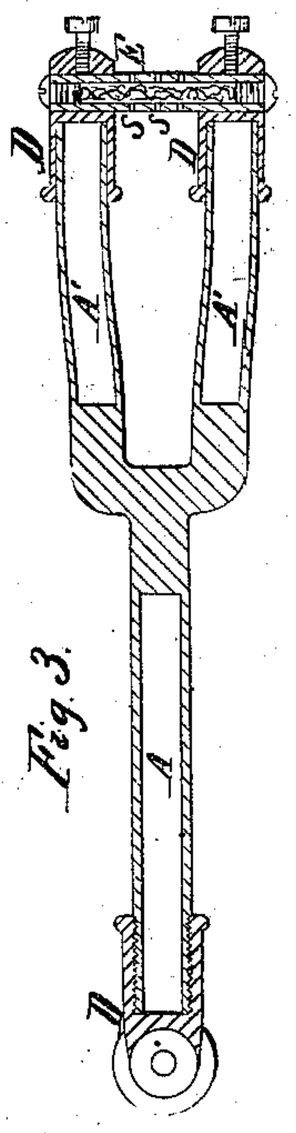
T. R. PICKERING.

VELOCIPEDE.

No. 88,507. Patented Mar. 30, 1869.





Witnesses.
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THOMAS R. PICKERING, OF NEW YORK, N. Y.

Letters Patent No. 88,507, *dated March* 30, 1869.

IMPROVED VELOCIPEDE.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, THOMAS R. PICKERING, of the city, county, and State of New York, have invented a new and useful Improvement in Velocipedes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification, and in which—

Figure 1 represents a side elevation of a velocipede constructed in accordance with my improvement;

Figure 2, a vertical section through the fork which carries the front wheel; and

Figure 3, a longitudinal section through the reach and rear axle.

Figure 4 is a transverse section through one of the stirrups.

Similar letters of reference indicate corresponding parts.

My invention consists in a peculiar tubular construction of the reach, or back-bone of the velocipede, with socket-attachment, whereby, while lightness and strength are secured, top-heaviness is avoided, and expense of construction reduced.

Also, the invention includes a hollow construction of the fork which carries the front wheel, whereby, while like advantages are obtained, said fork is made to form oil-boxes for lubricating the running-axle.

And furthermore, the invention consists in a polygonal-shaped stirrup, hung to freely turn on the wrist-pin of the crank which carries it, whereby much inconvenience is avoided, and certain advantages, as hereinafter set forth, obtained.

Referring to the accompanying drawing—

A and A′ A′ represent the reach, or back-bone of a two-wheel velocipede. This reach I construct of a main tube, A, and two smaller tubes, A′ A′, arranged, in relation to the main tube, as represented in fig. 3, and welded or united to the latter with plugs, fitted and welded into the adjacent ends of the several tubes, which latter may all be made of wrought-iron, or gas, or steam-pipe.

The main tube, A, carries, or has secured to it at its front, a socket, B, preferably made of brass or gun-metal, in which the fork C turns; and the lesser tubes, A′ A′, have pressed or fitted on to their back ends, sockets D D, for support of the rear axle E, which is stationary.

By constructing the reach as described, there are secured great simplicity, cheapness, and strength, without that top-heaviness which is so objectionable, and adds to the difficulty of managing or steadying the velocipede. Virtually, said reach, constructed to receive the rear wheel through it, is as strong as, or stronger than if, together with its front and rear attachments or sockets, it were forged in one piece, while it may be made at much less expense, and lighter.

The fork C, which turns by a king-bolt extension of it at its top, in the socket B, is also made up of two tubes, the lower ends of which have socket-bearers, *a a*, for the front axle F, that turns loose in said sockets or bearers.

Such construction of the fork also contributes to the light yet strong character of the velocipede, and avoidance of top-heaviness. Also, said fork, which, at its lower ends, is left open, or perforated, is made to form oil-boxes, *b b*, in which cotton, or any suitable flocculent substance, saturated with oil, introduced through holes in the sides of the tubes, may be inserted, for lubricating the front running-axle, F. This front axle, which has firmly secured to it the driving and steering, or main wheel G, carries the usual cranks, *c c*, the wrist-pins, *d*, of which may be adjusted, or set to occupy different distances from the centre of the axle, as circumstances require, by fitting said wrist-pins in any of a series of holes made in the cranks.

On these wrist-pins are freely fitted, as usual, so as to be capable of turning horizontally, the stirrups, against or on which the feet of the rider rest in working the vehicle.

It is very desirable, in order to obtain a flat or broad bearing-surface for the fe_t, that the stirrups should be hung as described, so that the wrist-pins may rotate within them, and thus give a self-adjusting character and freedom to the stirrups. Said stirrups have had weights suspended or attached to them below, for the purpose of keeping their tread uppermost, though this, in rapid running, on temporarily removing either foot, as occasionally is necessary, often fails to be secured by such means, and the stirrups, with their weights, revolve on the wrist-pins, thereby rendering it difficult for the rider to immediately "strike" the flat of the stirrup, on reapplying his foot thereto, and sometimes subjecting his foot to be hit by the turning or swinging weight of the stirrup.

This I obviate by constructing the stirrups H of polygonal form in their transverse section, so as to present three or more treads, whereby, no matter what motion the stirrup acquires on removing the foot, the latter will always find an immediate bearing, or rest, even though it may first come in contact with an edge, or angle, and the stirrup be readily adjusted by the pressure of the foot to its proper position, without risk of hurt, or injury to the rider.

The rear axle E, which is held stationary by screws, or otherwise, is made hollow, with plugs or screws to close its ends, and to admit of introducing oil and cotton within it, for the purpose of lubricating, through or by means of perforations, *s*, made in said axle, the nave of the rear wheel I, as it rotates on the axle.

The saddle *e*, saddle-beam *f*, supporting-spring *g*, to the latter, and steering-handle *h*, are or may be of the construction found in other velocipedes.

What is here claimed, and desired to be secured by Letters Patent, is—

1. The reach, or back-bone, constructed of a central,

or main tube A, and lateral rear tubes A′ A′, arranged substantially as described, and welded or united together, in combination with the socket B at the forward end of the reach, essentially as specified.

2. The combination of the sockets B and D D with the reach, constructed of tubes A A′ A′, arranged as described.

3. In combination with the socket B, the fork C, composed of tubes, constructed to form oil-boxes, *b b*, at their base, and provided with sockets, or bearers *a a*, for the support of the running-axle, essentially as specified.

4. The stirrups H, made of polygonal shape in their transverse section, and hung to freely turn on the wrist-pins of the cranks which carry them, substantially as described.

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Witnesses:
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