

(No Model.)

F. SWALES.
DRIVING BIT.

No. 497,931.

Patented May 23, 1893.

Fig. 1.

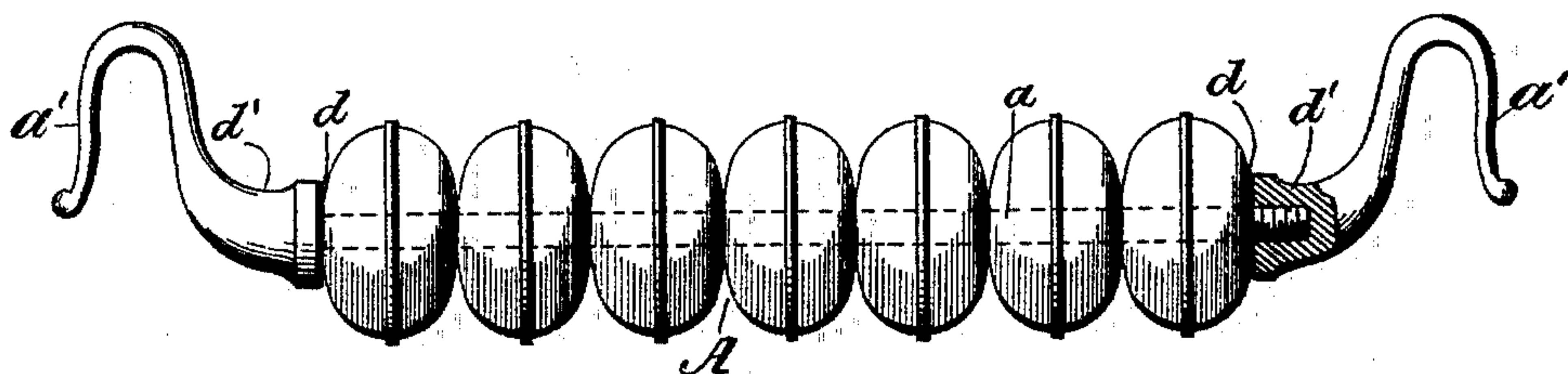


Fig. 2.

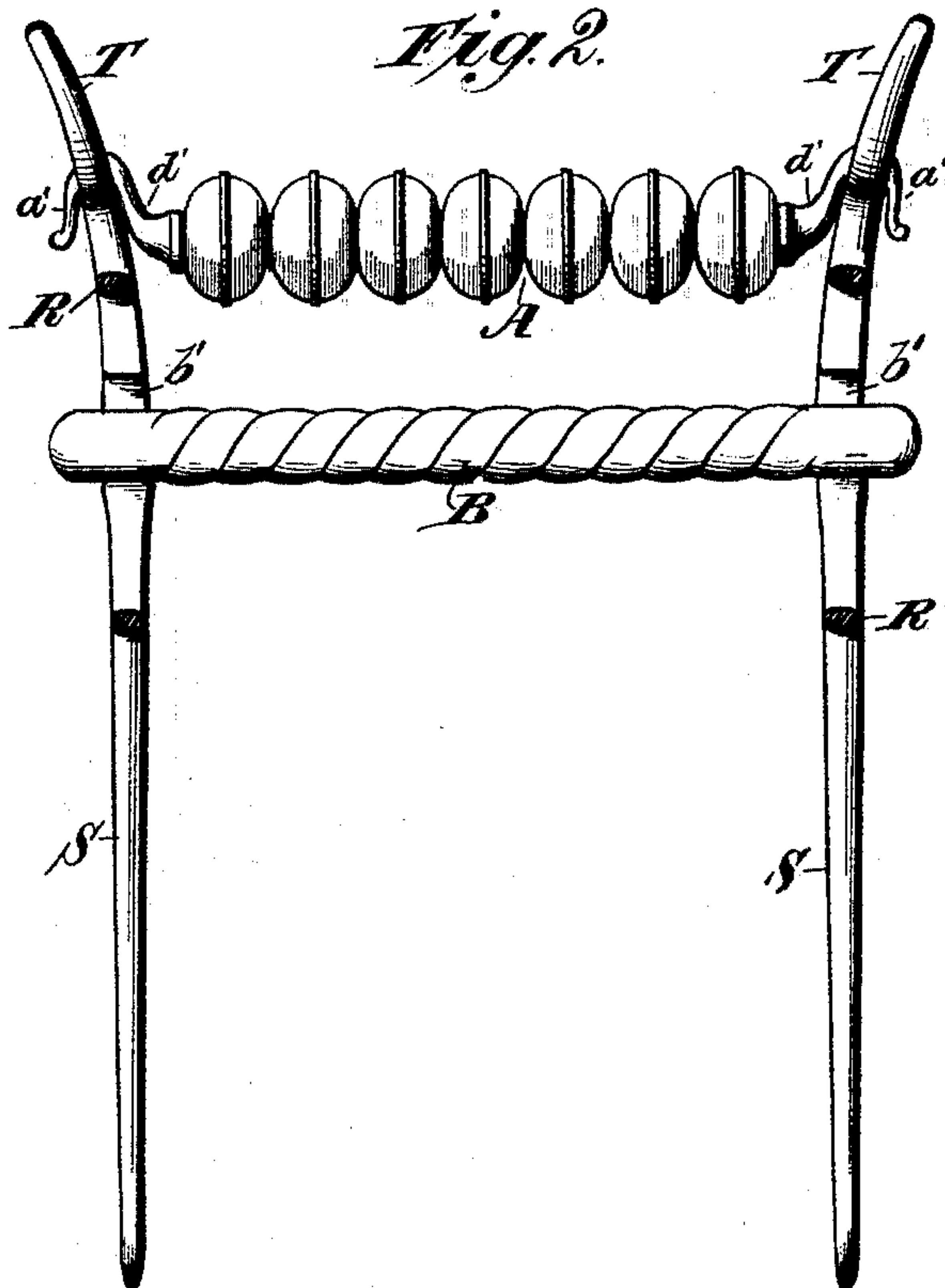


Fig. 3.

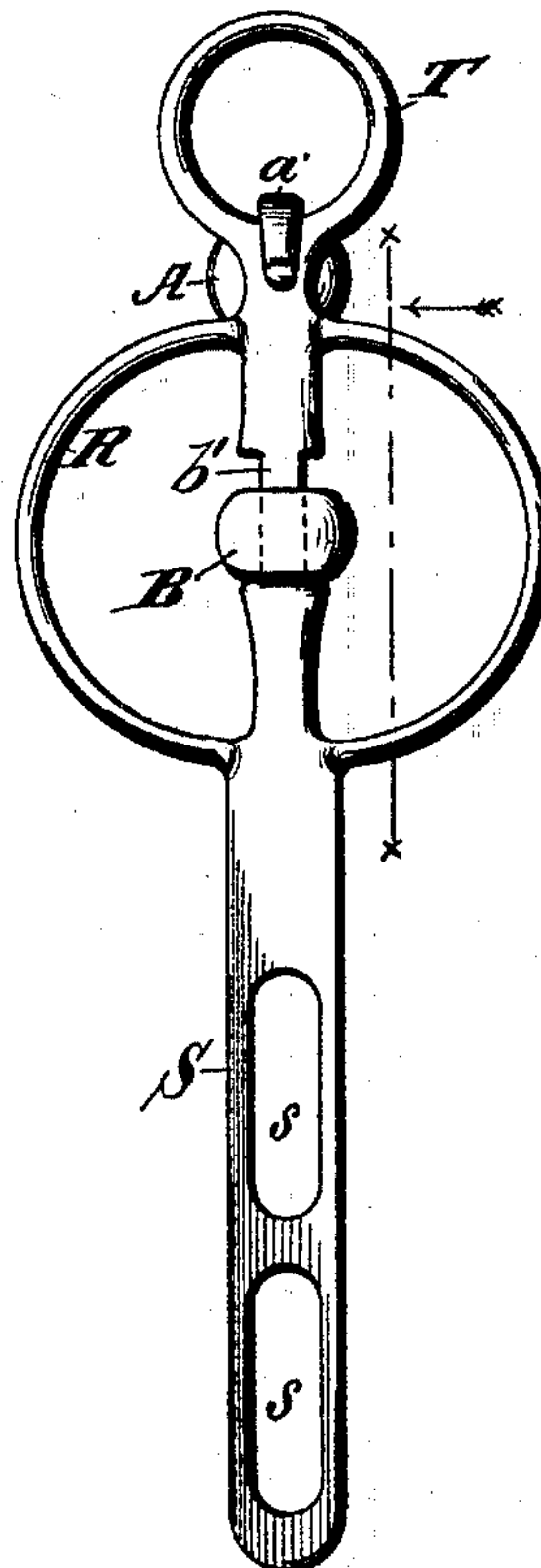
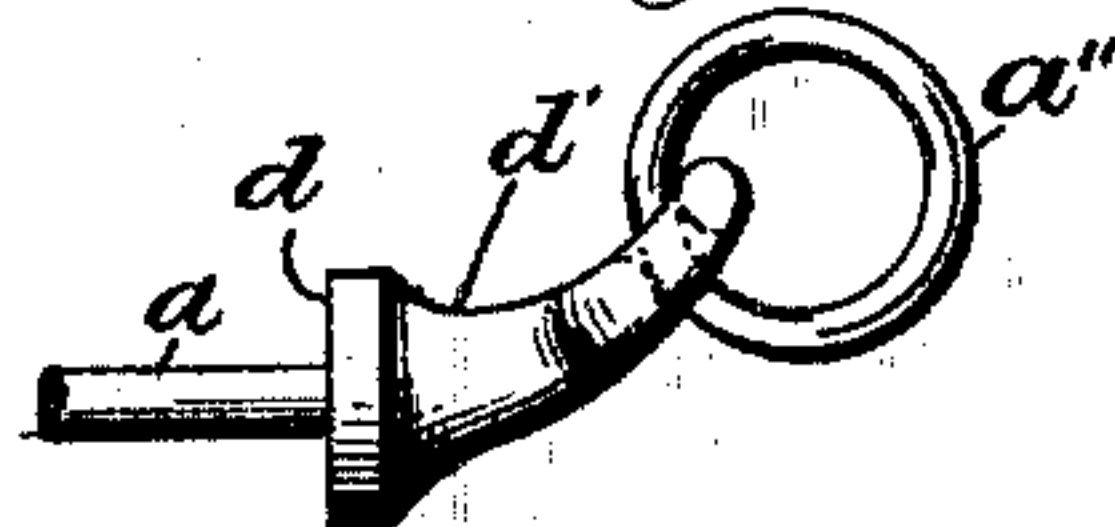


Fig. 4.



Witnesses.

Wm. H. Sloan
James P. Brown

Inventor:
Frank Swales
By William R. Baird
His Attorney.

UNITED STATES PATENT OFFICE.

FRANK SWALES, OF NEW YORK, N. Y.

DRIVING-BIT.

SPECIFICATION forming part of Letters Patent No. 497,931, dated May 23, 1893.

Application filed November 16, 1892. Serial No. 452,193. (No model.)

To all whom it may concern:

Be it known that I, FRANK SWALES, a citizen of Great Britain, residing at New York, in the State of New York, have invented certain new and useful Improvements in Driving-Bits; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

My invention relates to driving bits, and its novelty consists in the construction and adaptation of the parts as will be more specifically hereinafter pointed out.

In using ordinary curb bits, and to some extent in using snaffle bits, there are three serious faults to be met with. One is that there is nothing to hold the mouth piece in the right place in the animal's mouth,—that is, between the incisors and grinder teeth; another is that all of the bits known to me are constructed so that a horse can always seize some portion of the bit in his teeth and hold it against the utmost exertions of a driver. By my invention, I propose to remedy these defects and have produced a bit which is supplied with a detachable mouth piece capable of attachment to a bit of the usual form, which keeps the main mouth piece in position so that the horse cannot seize or hold it by the teeth, and which is provided with means for soothing the surfaces of the mouth and attracting the animal's attention.

In the drawings, in which the same letters refer to the same parts in all of the views, Figure 1 is a plan view and partial section of my improved detachable roller mouth piece. Fig. 2 is a similar view of a curb bit with the said mouth piece attached to the billet ring and showing the rein rings in section. Fig. 3 is a side view of the same; and Fig. 4 is a small detail plan view showing one end of the mouth piece and its method of attachment to a snaffle bit.

In the drawings, S and S are the side bars of usual form, curved outward slightly at their upper extremities and terminating in the billet rings T and T and provided with the slots s to receive the reins, and united together by

the main mouth piece B corrugated or roughened at its front end and loosely hung in the recesses *b' b'* of the side bars. The rein rings R R are made integral with the bit bars, are of usual form, and need no especial description.

A is my removable roller mouth piece. It consists of a rod or bar *a* of moderate diameter terminating at each end in horn shaped hooks *a'* and *a'*, their thickest portions *d'* adapted to receive the ends of the rod *a* and provided with a shoulder *d* on the outer surface, and thence gradually diminishing in size to their termination, being somewhat of the shape of a shepherd's crook.

Upon the bar *a* are mounted balls or rings of some soft elastic material preferably rubber. They are so adjusted that they are free to turn on their axes but have little freedom of movement horizontally and they fit snugly against the shoulders when the bit is in place. One of the hooks *a'* is threaded and adapted to receive the threaded end of the rod *a*. By this means the rubber balls may be inserted in place easily.

When a snaffle bit is used, I may in place of the crook shaped hook *a'*, secure the bit to the ring of the snaffle by means of a ring, as shown at *a''*, in Fig. 4; and indeed I may use this or any similar means for attaching the roller mouth piece to the bit so long as I maintain the outward taper on the part *d'* and up to the point where it is suspended from the side bars, because it is this tapering surface that prevents the animal from grasping the bit in its teeth as they slide and glance away from such surfaces. I may also use for the revolving pieces other forms of devices than the rubber rings which I have illustrated,— ivory, bone, celluloid, or indurated wood pulp would probably serve as efficiently under many circumstances, but on the whole I prefer rubber because of its low cost, cleanliness, elasticity and softness.

In practice, I have found my bit very effective. It keeps the main mouth piece in its correct place, prevents the animal from seizing and holding the bit by the teeth, prevents pulling or lugging at one side, and is adapted for use with young horses having tender mouths,—the soft balls have a soothing effect on a horse and their revolution attracts its attention and that is the main thing to be at-

tained to keep an animal tractable. Being detachable the roller mouth piece can be used with other forms of bits and so it is inexpensive.

5 Having thus described my invention, what I claim as new is—

10 In a harness bit, the combination with the main mouth piece B, of the side bars S S provided with a bar *a* arranged to extend transversely within and at or near the corner of the animal's mouth and located a distance from the main mouth piece sufficient to prevent the

animal taking said main mouth piece between his grinder teeth, the bar *a* having the outward tapering portions *d' d'* at the extremities 15 of said bar between the side bars, and rotatable ball on the bar *a* between its tapering portions, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK SWALES.

Witnesses:

JAMES P. DOWNS,

WILLIAM R. BAIRD.