

(No Model.)

2 Sheets—Sheet 1.

C. W. CRANNELL.
DRENCHING BIT.

No. 402,068.

Patented Apr. 23, 1889.

Fig. 1.

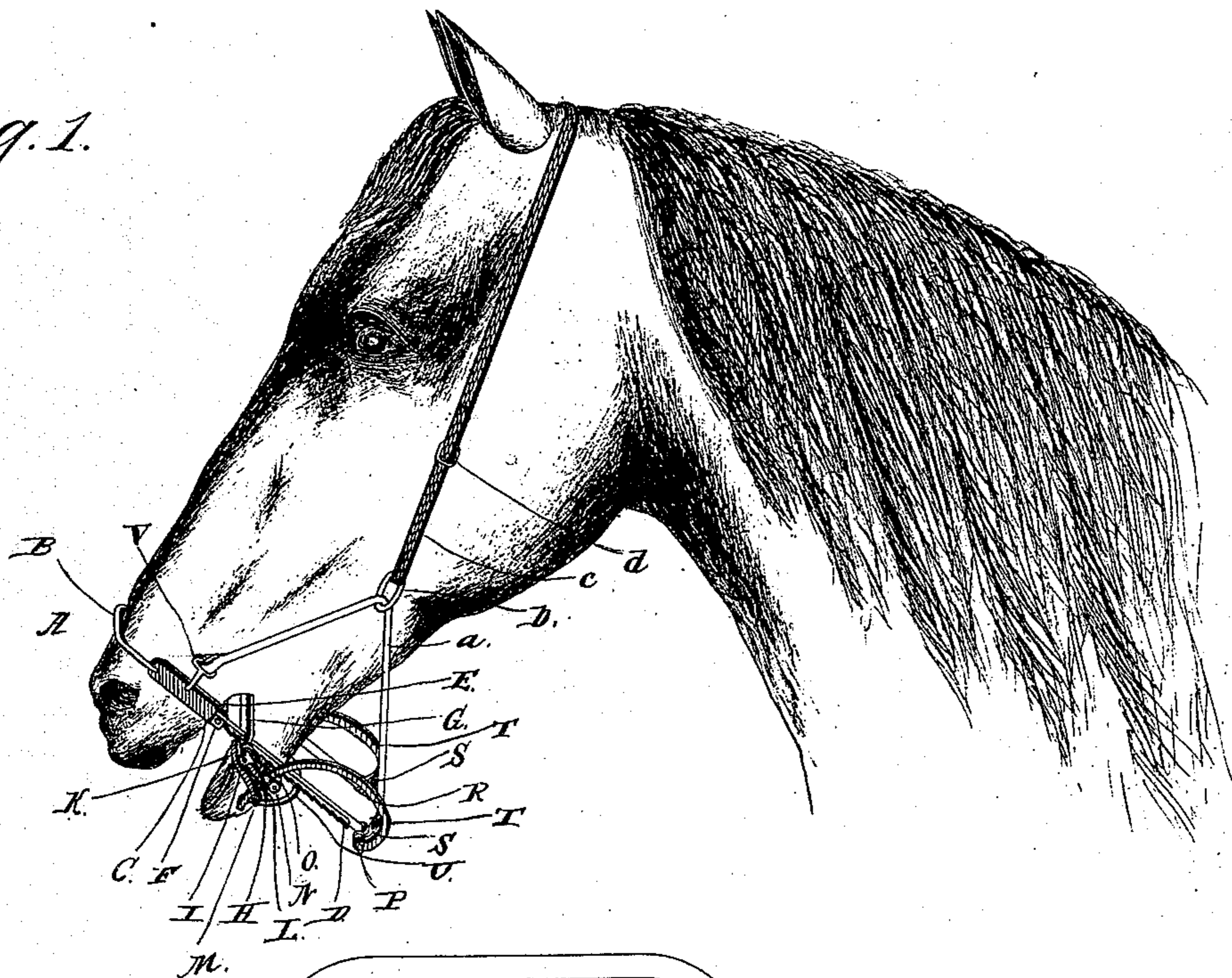
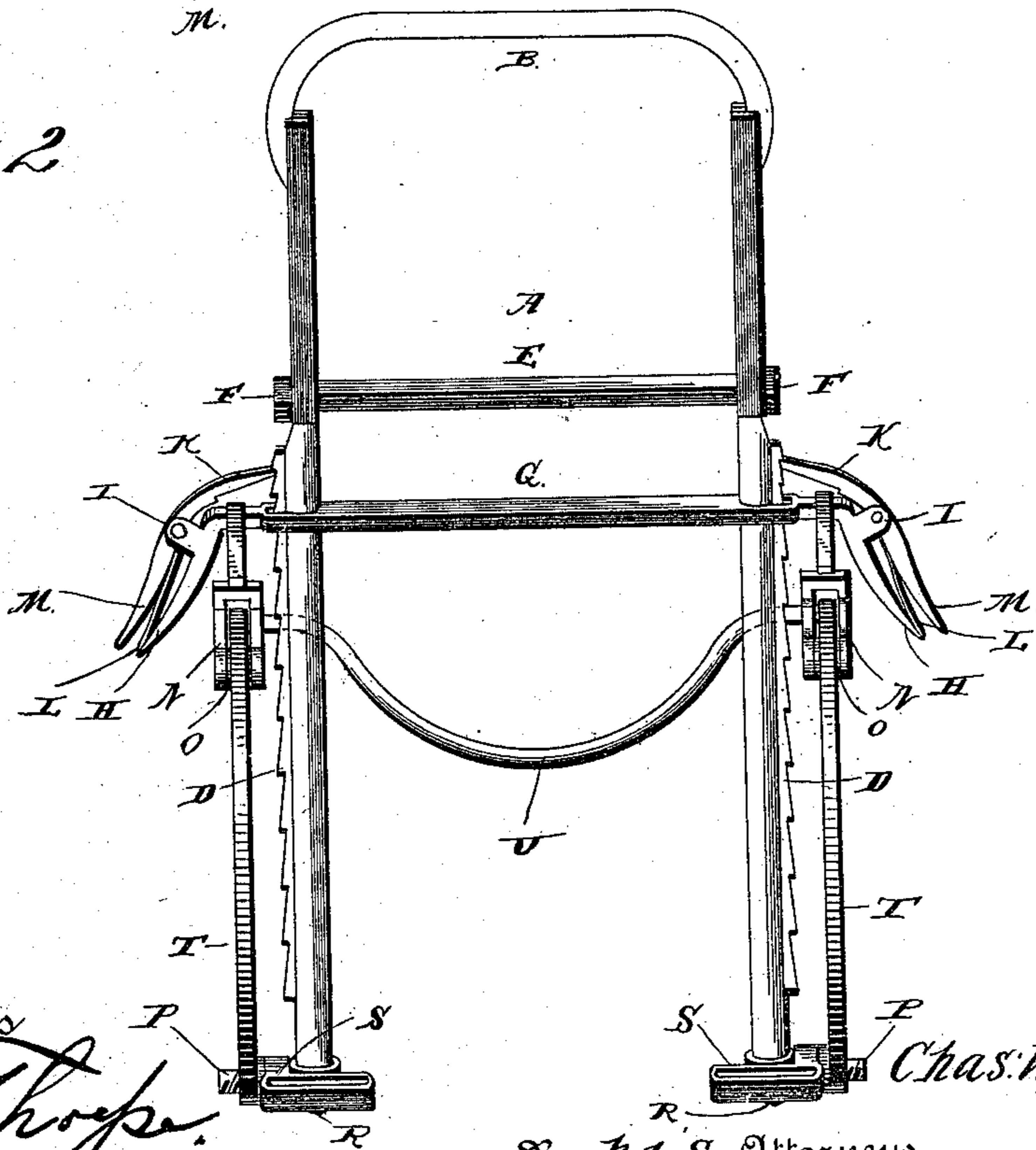


Fig. 2.



Witnesses

Geo. Thayer
Geo. Garner

Inventor,

Chas. W. Crannell

By *his* Attorneys

Chas. W. Crannell

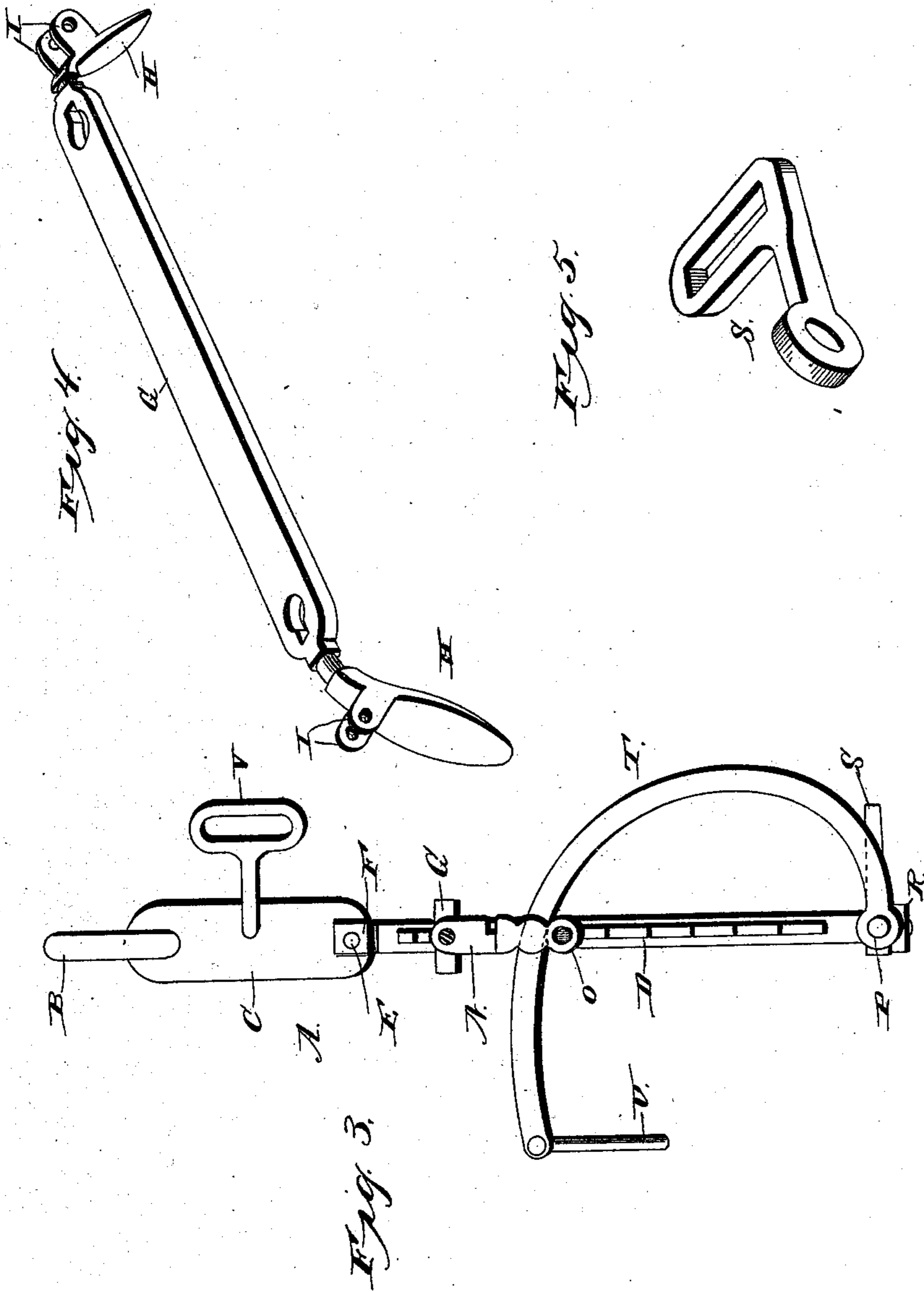
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2 Sheets—Sheet 2.

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Witnesses

Ces. Thorpe
J. Warner

Inventor

Chas. W. Crannell

By *his* Attorneys

Chas. W. Crannell

UNITED STATES PATENT OFFICE.

CHARLES W. CRANNELL, OF OBERLIN, KANSAS, ASSIGNOR OF ONE-HALF TO
TULLY SCOTT, OF SAME PLACE.

DRENCHING-BIT.

SPECIFICATION forming part of Letters Patent No. 402,068, dated April 23, 1889.

Application filed November 27, 1888. Serial No. 291,988. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. CRANNELL, a citizen of the United States, residing at Oberlin, in the county of Decatur and State of Kansas, have invented new and useful Improvements in Devices for Expanding the Mouths of Horses, of which the following is a specification.

My invention relates to improvements in devices for expanding the mouths of horses for dental treatment; and it consists in the peculiar construction and combination of devices, that will be more fully set forth hereinafter, and particularly pointed out in the claims.

In the drawings, Figure 1 is a perspective view of a mouth-expander embodying my improvement, showing the position of the same when arranged in a horse's mouth. Fig. 2 is a sectional view of the same removed from the horse. Fig. 3 is a side elevation of the same. Fig. 4 is a detail view of the adjustable bar. Fig. 5 is a detail view of one of the loops.

A represents a substantially U-shaped frame, which comprises the arched upper portion, B, and the vertical side arms, C. The latter are cylindrical in shape for a suitable distance from their lower ends and are provided on their outer sides with ratchet-teeth D.

E represents a cross-bar, which connects the arms C at a suitable distance from their upper ends, and has its ends provided with threaded extensions, which pass through openings in the said arms, and to the outer ends of said threaded extensions are screwed clamping-nuts F.

G represents an adjustable bar, which is provided near its ends with openings, through which the arms C extend, and the ends of the said bar are extended outward and downward to form arms H. The said arms are provided near their upper ends with ears I, between which are pivoted detents K, that engage the ratchet-teeth and are maintained normally in engagement therewith by flat springs L, said springs bearing between the extended arms M of the detents and the arms H of bar G. Swiveled on the ends of the bar G are links

N, which have their lower ends forked or bifurcated and provided with anti-friction rollers O.

To the lower ends of the arms C are secured outwardly-projecting spindles P by means of eyes formed at the inner ends of said spindles and engaging reduced extensions of the arms C and clamping-nuts R, screwed to the said extensions and bearing under the inner ends of the spindles. Swiveled on the said spindles at their inner ends are loops S, and pivoted on the said spindles are a pair of eccentric cam-levers, T, which pass between the bifurcated lower arms of the links N and bear upon the rollers O, journaled in said links. The outer ends of the cam-levers are connected by a curved yoke, U, which has its ends swiveled to the said cam-levers.

V represents a pair of loops, which are pivoted to the arms C near their upper ends. The links S and V are connected together in pairs by straps a, on which are rings b, and attached to the said rings is a head stall or strap, c, which is adapted to pass over a horse's head behind his ears, and is provided with a buckle, d, by means of which its length may be adjusted.

The operation of my invention is as follows: The bar G is normally raised to a position in proximity to the bar E by disengaging the detents from the ratchet-teeth and raising the cam-levers, and said bars E and G are inserted in the horse's mouth in a manner similar to a bit, with the yoke or arched portion of the frame over the horse's upper jaw. The head stall or strap is then buckled around the horse's head, as before described, to secure the device in position in his mouth. By grasping the yoke U and depressing the same the cam-levers are caused to lower the bar G, and thereby expand the horse's jaws to any desired extent, the spring-pressed detents engaging the ratchet-teeth and serving to hold the bar G at any desired adjustment while the horse's teeth are being operated upon. In order to release the pressure from the horse's jaws, it is only necessary to grasp the arms M and the detent and trip the latter from the ratchet-teeth, when the horse in

closing his jaws will cause the bar G to move upward toward the bar E, as will be readily understood.

Having thus described my invention, I
5 claim—

1. The combination of the frame having the rigid bar E, the adjustable bar G, movable on the frame, the detents to lock the same to the frame, and the cam-levers T, pivoted
10 to the frame and connected to the bar G to operate the latter, substantially as described.

2. The combination of the frame A, having the cross-bar E and the arms C, with ratchet-teeth D, the bar G, movable on the arms C
15 and having the detents to engage the ratchet-teeth, the links swiveled to the bar G, and the cam-levers T, pivoted at the lower ends of arms C and engaging the links, substantially as described.

20 3. The combination of the frame having the cross-bar E and the arms C, the cross-bar G, movable vertically on said arms, the links swiveled to the cross-bar, the cam-levers pivoted to the lower ends of arms C and operating in the links, and the yoke U, connect-
25 ing the free ends of the cam-levers, substantially as described.

4. In a mouth-expander, the frame A, having the arched portion B to pass across the horse's nose, and having the side arms, C, and
30 the cross-bar E, to enter the horse's mouth, combined with the adjusting-bar G, sliding on the arms C, and also adapted to enter the horse's mouth, the detents carried by the sliding bar G to engage the side arms, and
35 the mechanism, substantially as described, to lower the bar G, as set forth.

5. In a mouth-expander, the frame A, having the arched portion to pass over the horse's nose, and the rigid bar E, to enter the mouth
40 of the horse, combined with the bar G, sliding on the frame A, and also entering the horse's mouth, the yoke O, bearing under the jaw of the horse, and connecting devices between the yoke U and the bar G to raise and
45 lower said bar G, and the detents for said bar G, as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

CHARLES W. CRANNELL.

Witnesses:

C. F. RATHBONE,

G. G. RATHBONE.