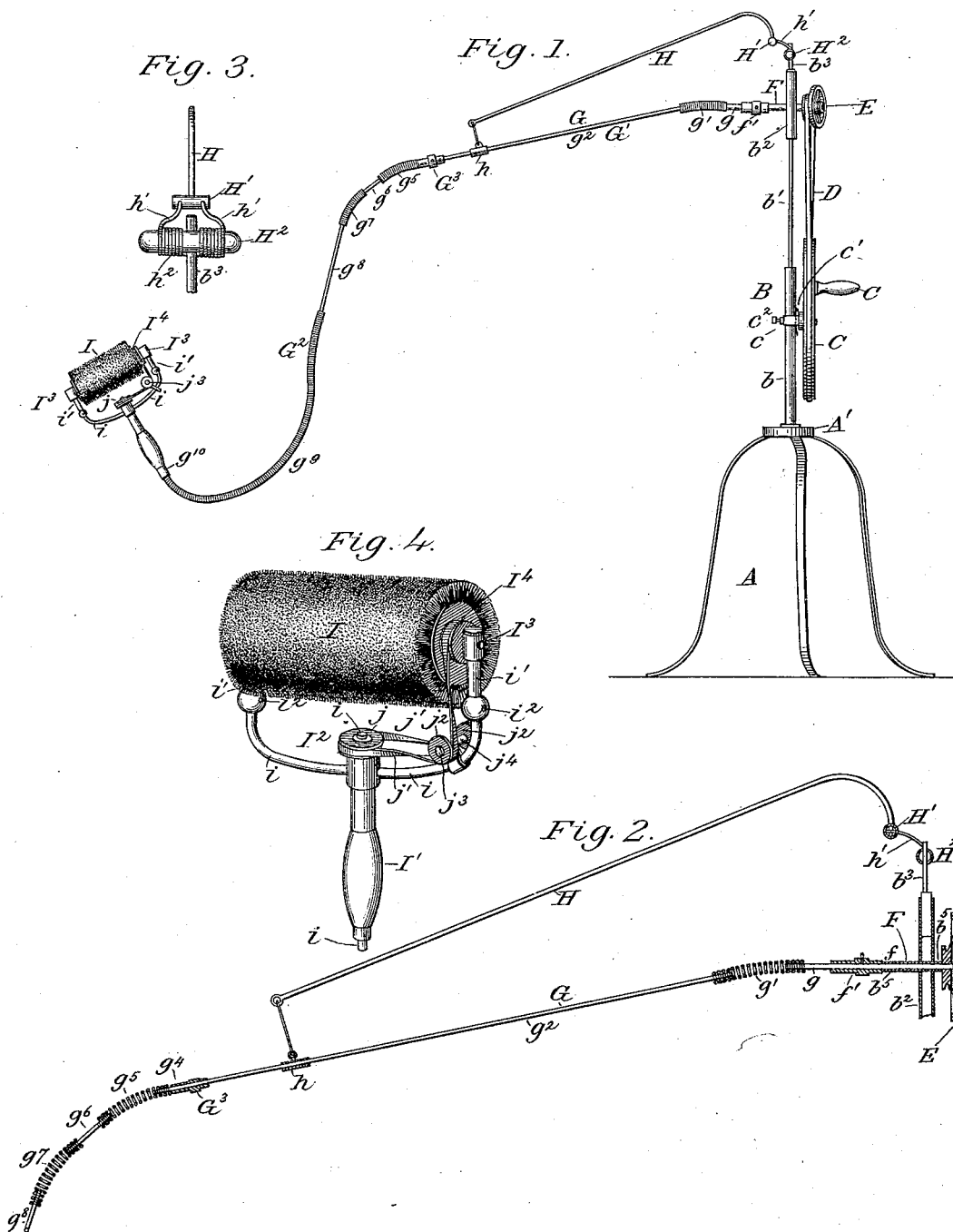


(No Model.)

N. L. KING.
HORSE BRUSHING APPARATUS.

No. 261,160.

Patented July 18, 1882.



Witnesses:
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UNITED STATES PATENT OFFICE.

NATHAN L. KING, OF CATSKILL, ASSIGNOR TO THE KING WOOL CLIPPER COMPANY, OF BARRYTOWN, NEW YORK.

HORSE-BRUSHING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 261,160, dated July 18, 1882.

Application filed February 21, 1882. (No model.)

To all whom it may concern:

Be it known that I, NATHAN L. KING, a citizen of the United States, residing at Catskill, in the county of Greene and State of New York, have invented a new and useful Apparatus particularly applicable for the Brushing and Cleaning of Horses or other Animals, of which the following is a specification.

In carrying out my invention I employ a framing, by preference in the form of a tripod, from the center of which I support a sectional adjustable standard, which supports the driving mechanism, and also a flexible revolving shaft, to the end of which is applied the brush mechanism. The flexible revolving shaft is supported with capability of free revolution in a bearing supported by a spring arm or lever mounted, as hereinafter described, on the upper end of the sectional adjustable standard.

The accompanying drawings form part of this specification, and illustrate what I consider the best means of carrying out the invention.

In the drawings, Figure 1 represents a side view of my apparatus complete. Fig. 2 is a sectional view of the flexible shaft and parts immediately connected therewith. Fig. 3 is a detached view of a portion of the same. Fig. 4 is a perspective view of the brush mechanism on a larger scale, separately.

In each of the views similar letters of reference indicate like parts wherever they occur.

A represents the main framing of the apparatus, which is shown in the form of a tripod, from the plate A' of which extends the standard B, which is by preference formed in four sections, b b' b^2 b^3 , capable of adjustment within or upon each other, so as to regulate the height of the said standard and the relative distances apart of the devices carried thereby.

The lower portion, b , of the standard B is shown formed hollow and adapted to receive within it the lower end of the part b' , the upper end of which is received into the lower hollow end of the section b^2 , the upper end of which is adapted to receive the lower enlarged end of the section b^3 . The respective sections are capable of easy adjustment one in relation to the other, and when so adjusted are held in position by means of binding-screws or other suitable means. Upon the section b is mount-

ed an adjustable bearing, c , held in position by a wedge, c' , and a set-screw, c^2 , and provided with a bearing, upon which is mounted a driving-wheel, C, capable of being driven by a handle, C', or by other suitable means. The wheel C is grooved and adapted to receive a cross-belt, D, by means of which motion is communicated to a pulley, E, affixed on the end of a short shaft, F, working in bearings b^5 b^6 , carried by the section b^2 . f is an adjustable washer or bearing-piece for the purpose of keeping the short shaft F in proper working position.

To the outer end of the short shaft F, I attach, by means of a coupling, f' , the flexible revolving shaft G, which is by preference formed in two sections, G' G^2 , connected together by means of a coupling, G^3 . Each of the sections G' G^2 of the shaft G is composed alternately of portions of lengths of steel or other wire or rod and portions or lengths of coiled wire, the connection of the said parts being effected either by riveting or screwing the wires or rods within the coils or by other suitable means. In the drawings I have shown the section G' formed of two portions or lengths, g g^2 , of wire, and one, g' , of coiled wire, firmly screwed together, as shown in Figs. 1 and 2. The portion g^2 is of considerable length, and at its outer end is received within a sliding bearing, h , which, by means of a loop, h' , and a connecting-link or other suitable means, is attached to the outer end of a spring arm or lever, H, which is by preference of a curved form, and at its inner end is provided with a cross-piece, H', adapted to receive the extended ends h' h' of a double-coiled spring, h^2 , supported on and carried by a cross-piece, H², mounted on the end of the section b^3 of the standard B. The section G^2 of the shaft G, I have shown composed of four lengths, g^3 g^6 g^9 g^{10} , of wire, and three sections, g^5 g^7 g^8 , of coiled wire, screwed together, as shown.

To the end of the length g^9 , by means of a coupling, g^{10} , I connect the end of a shaft, i , which revolves in bearings formed within the handle I' of the framing I² of a rotary brush, I.

To the outer end of the handle I', on opposite sides are applied the two halves of the framing I², which support the revolving brush I,

each half I^2 being formed in two parts, i i' , the parts i being bent or formed into the desired shape and rigidly affixed to the handle I' , while the parts i' are capable of adjustment on the parts i , when desired, by loosening or tightening the screws i^2 .

I^3 are bearings formed on the ends of the parts i^2 for the purpose of receiving the ends of the axes of the brush I .

10 On the outer end of the shaft i , I mount a pulley, j , around which passes a cord or belt, j' , which passes over guide-pulleys j^2 j^2 , supported on bearings j^3 , carried by a cross-piece, j^4 . This cross-piece j^4 is supported by one of the parts i of the framing I^2 , and motion is imparted by means of the pulley I^4 to the brush I . Any slack in the cord or belt j' may be taken up readily by adjusting the position of the parts i' of the halves of the framing I^2 .

20 The operation of the device is as follows: Motion being communicated to the wheel C is thence transmitted, by means of a cross-belt, D , to the pulley E , and thence through the short shaft F to the flexible shaft G , by means of which motion is imparted to the brush mechanism. By reason of the peculiar construction of the rotary flexible shaft G perfect freedom is allowed to the operator in handling

the brush, and by reason of the flexibility of the spring arm or lever H and the spring h^2 30 the section G' of the shaft may be held at a considerable distance from the standard without in any way impeding the perfect freedom of the operator or the pliability of the flexible shaft. This effect is materially aided by reason 35 of the portion g being allowed to slide freely in the bearing h whenever its position is changed in handling the device.

I claim as my invention—

1. The combination, with the flexible shaft 40 G , of the shaft i , handle I' , adjustable framing I^2 , brush I , pulleys j j^2 j^2 I^4 , and belt j' , constructed and adapted to operate substantially as shown and described.

2. The combination, with the vertical sectional shaft B and flexible shaft G , of the sliding bearing h , spring-arm H , cross-piece H' and spring h^2 , and cross-piece H^2 , constructed and adapted to operate substantially as shown and described. 50

In witness whereof I have hereunto set my hand this 8th day of February, 1882.

NATHAN L. KING.

Witnesses:

THOS. W. FOLSOM,
WM. E. RICHARDS.