

No. 621,703.

Patented Mar. 21, 1899.

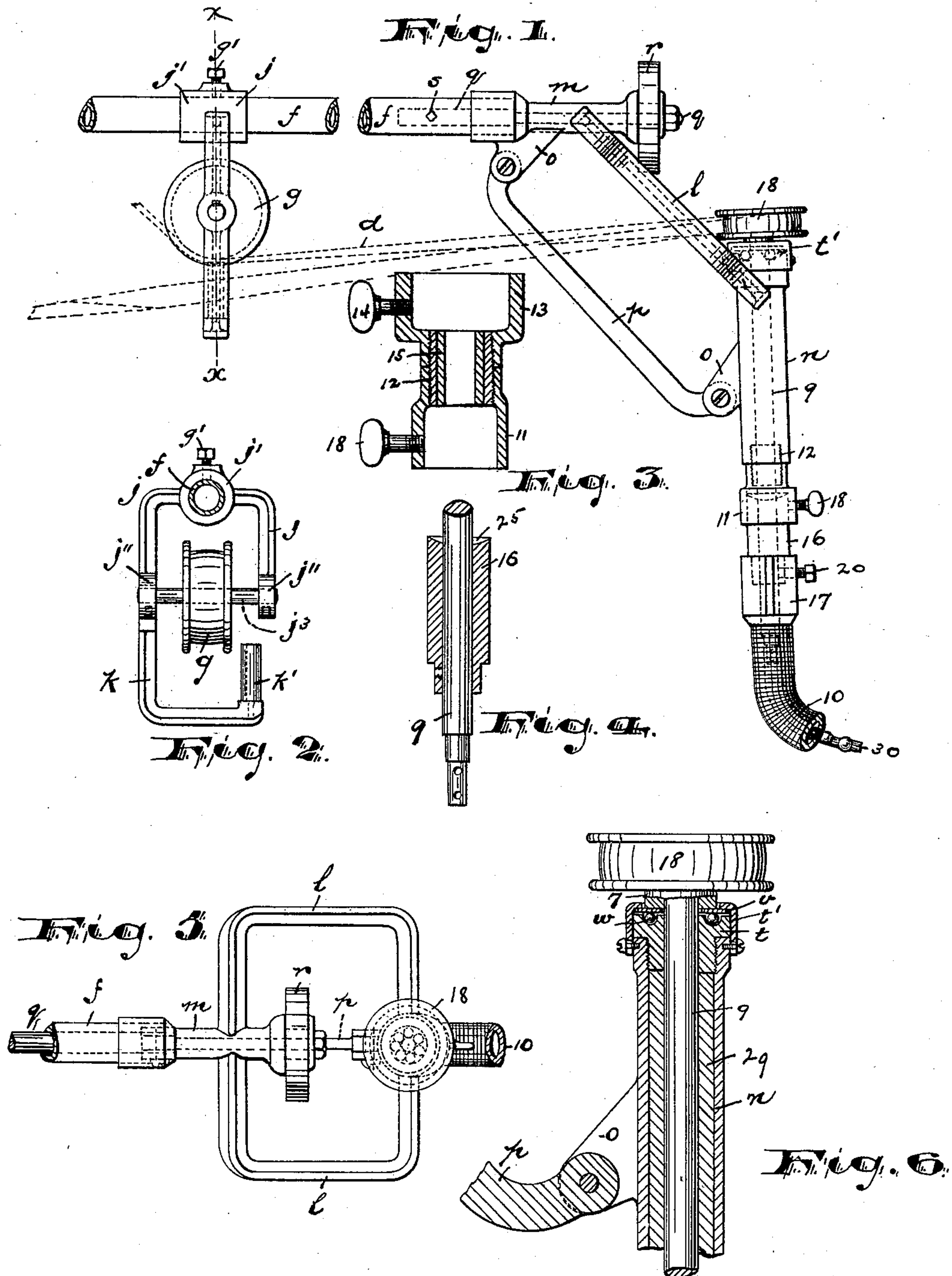
C. W. POTTER.

HORSE CLIPPING AND GROOMING MACHINE.

(Application filed Feb. 28, 1898.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

A. R. Krouse.

Russell M. Everett.

INVENTOR:

Charles W. Potter.

BY

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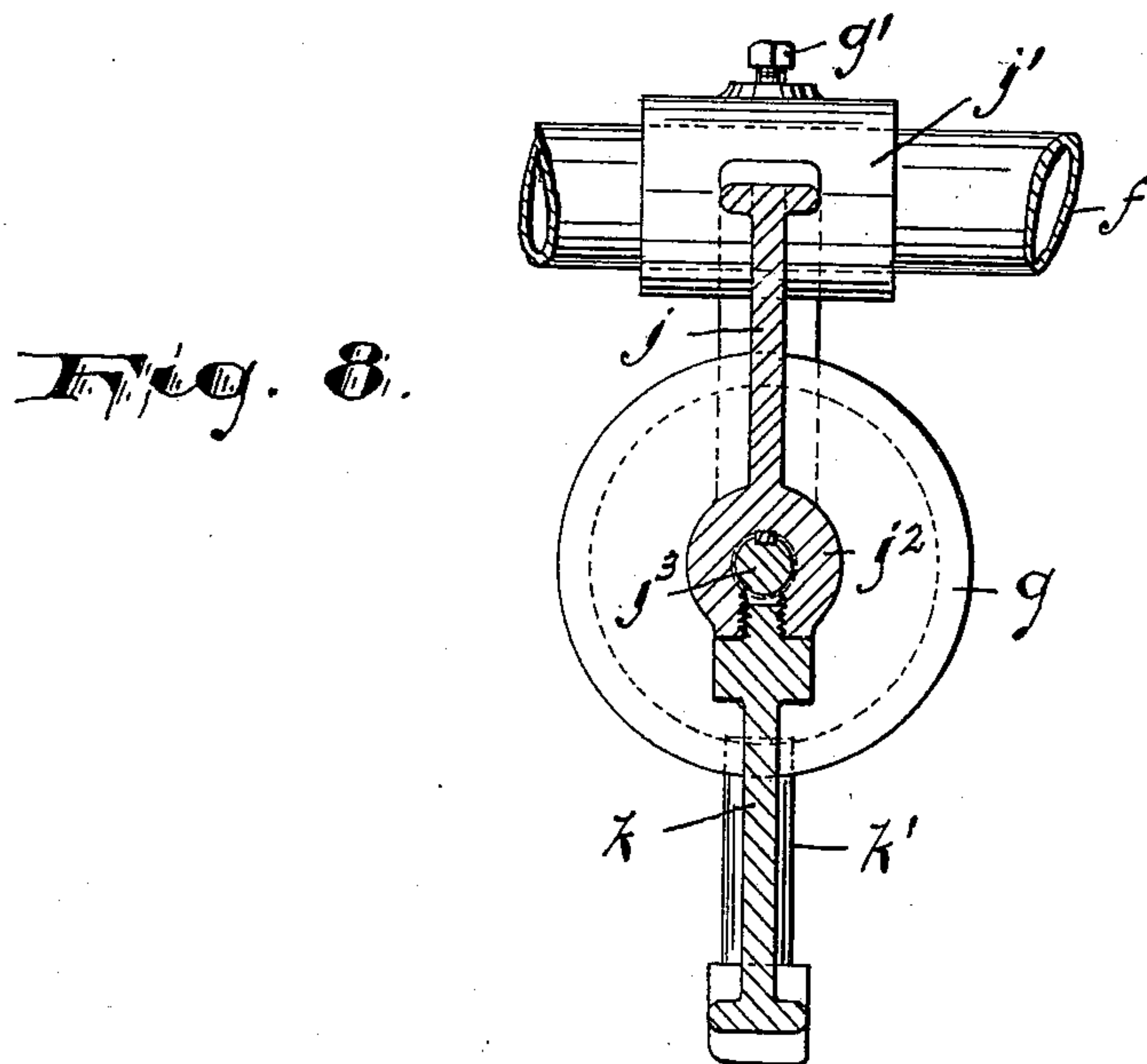
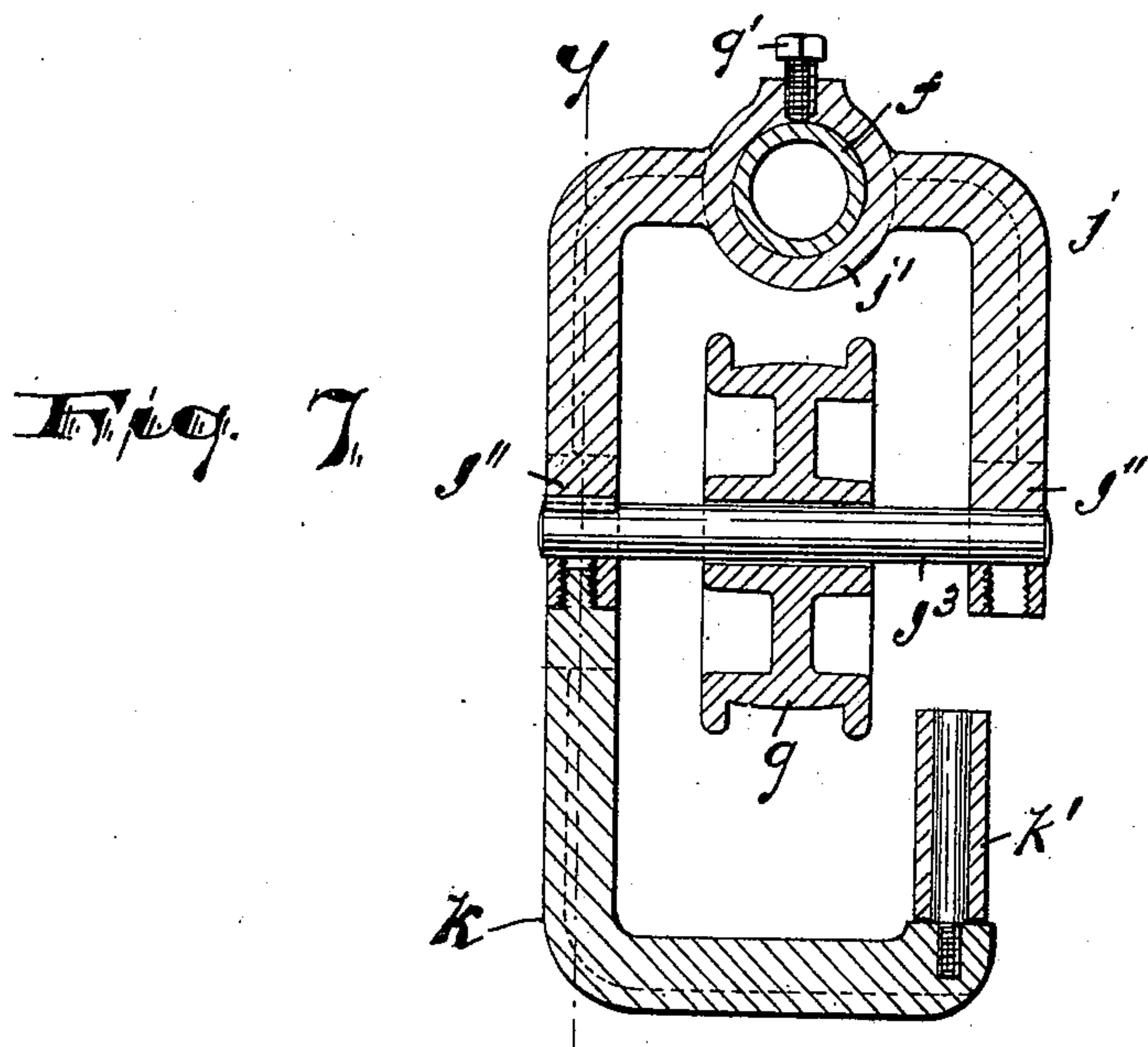
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UNITED STATES PATENT OFFICE.

CHARLES W. POTTER, OF MONTCLAIR, NEW JERSEY.

HORSE CLIPPING AND GROOMING MACHINE.

SPECIFICATION forming part of Letters Patent No. 621,703, dated March 21, 1899.

Application filed February 28, 1898. Serial No. 671,906. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. POTTER, a citizen of the United States, residing at Montclair, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Horse Clipping and Grooming Machines; and I do hereby 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 letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to certain improvements in that class of horse clipping and grooming machines represented by the one shown in my prior Patent No. 588,706, dated August 24, 1897, the object of the present improvements being to simplify and reduce the cost of construction, to render the device more convenient, and to secure other advantages and results, some of which may be referred to hereinafter in connection with the description of the working parts.

The invention consists in the improved horse clipping and grooming machine and in the arrangements and combinations of parts of the same, all substantially as will be hereinafter set forth, and finally embraced in the clauses of the claim.

Referring to the accompanying drawings, in which like letters and figures of reference indicate corresponding parts in each of the several views, Figure 1 is a side elevation of a portion of my improved machine. Fig. 2 is a detail view of a certain improved hanger or pulley-frame adapted to be adjusted upon the balance-arm. Fig. 3 is a sectional detail of a pair of reducers involving a modification of construction. Fig. 4 is a detail view of a portion of the spindle and metal sleeve providing a bearing for the same and adapted to be inserted in said connection. Fig. 5 is a plan showing more particularly a frame adapted to be secured at the extremity of the balance-arm; and Fig. 6 is a sectional view of a portion of the same, showing a part of the spindle and its pulley, &c. Fig. 7 is a sectional view taken on line *x*, Fig. 1, and showing the arrangement of parts more clearly; and Fig. 8 is a section on line *y*, Fig. 7.

In said drawings, *f* indicates a balance-arm similar in general arrangement and construction to the one shown in my prior patent above referred to, said arm being arranged upon a suitable fulcrumal bracket or support and having a weight to counterbalance the weight of the spindle and clipping apparatus, as described in my prior patent, the weight and fulcrumal support not being herein shown. On the end of the balance-arm opposite the weight is arranged the spindle-pulley 18, and back from said pulley 18 on said arm *f* is arranged the idle-pulley *g*. In the present construction the said idle-pulley *g* has its bearings on an adjustable hanger or pulley-frame, by means of which by simply loosening a set-screw *g'* the said frame or hanger may be moved longitudinally on the arm *f* and the pulley be changed in location to enable it to properly direct or guide the driving-belt *d*. (Shown in outline in Fig. 1.) The said frame *j* in the present case consists of a casting having at its upper part a tubular or cylindrical portion *j'*, adapted to receive the arm *f* and the said set-screw *g'*, whereby said frame may be rigidly but adjustably secured upon said arm *f*. At the lower part of said frame *j* the same is provided with boxes or bearings *j''* for the pulley shaft or spindle *j³*, and at one of the downwardly-extending ends of said lower part with a supplemental guiding part *k*, which is provided with a guiding-arm *k'*, the said supplemental part *k* being adapted to be changed from one socket to the other and reversed to meet certain conditions in the operation of the belt. The pulley *g*, arranged in said frame *j*, guides or directs the belt, as in my prior patent; but in the present construction it may be noted the said pulley *g* is loose on the shaft *j³*, and the space between the downwardly-projecting end of the frame is wide enough and the shaft *j³* is long enough to permit a lateral movement thereon to accommodate it to various positions assumed by the belt in the operation of clipping or grooming. At the extremity of said arm *f* is arranged a second frame, consisting of an open casting *l*, having at its opposite sides tubular bearings *m n*, the castings of the tubes lying at or approximately at right angles one to the other. The said casting at said tubular bear-

ings is also preferably provided with ears *o*, which provide bearings for a brace *p*.

Through the tubular bearing *m* extends a short shaft *q*, upon the outer end of which is arranged an elastic disk or bumper *r*, made of rubber or other suitable material, adapted to engage the ceiling or other bearing adapted to limit the upward movement of the arm *f* when the clipping or grooming implement is released or downward draft is removed from the said implement and cushions its impact, so as to prevent noise and prevent injury to the stop-bearing. The said short shaft *q* extends into the arm *f* and is secured therein by a set-screw *s*, so that said casting *l* and bumper *r* are held firmly and securely in place.

At the upper end of the tubular portion *n*, which is threaded interiorly, is arranged a hardened-steel ball-bearing block *t*, suitably grooved on its upper side to provide an annular way for the balls *w*. Also at said upper extremity is a cap or retainer *t'* and washer *v* for holding the balls *w* in place, the said washer being arranged beneath the inwardly-extending edge of the retainer *t'* and hub 7 of the pulley 8. The pulley-spindle 9 is suitably fixed upon or to said pulley and rotates therewith, and inasmuch as the pulley 8 is relatively small the fast-moving belt transmits a high rate of speed to said pulley 8 and spindle, which movement is transmitted to the flexible shaft 30, Fig. 1, within the case 10 and attached to said spindle 9 in any suitable manner.

The tubular portion *n* may be suitably bab-bitted, as at 29, and at the lower end is arranged a reducer 11, which is in the preferred construction secured to the tubular portion *n* by means of a threaded sleeve or nipple 12. However, in applying my invention to other machines devoid of threads adapted to receive said nipple 12 I employ a construction such as shown in Fig. 3, in which the said nipple fits in a second reducer 13 and the latter is fastened to the spindle-bearing above by means of a set-screw 14. Within the nipple is provided with Babbitt metal 15, which may be a continuation of the Babbitt metal of the portion *n* and which serves as a bearing for the spindle.

The enlargement of the reducer 11 forms a socket to receive a sleeve 16, in which the spindle 9 has a bearing and to which the end piece 17 of the flexible shaft, cover, or casing is attached when the spindle and flexible shaft in connection therewith are in operative relations.

Ordinarily in greasing the flexible shaft to render its movements easy it becomes necessary to detach the cover or casing from the sleeve 16 and remove the same from the flexible shaft to permit a thorough application of the grease. After the greasing operation when replacing the said casing or cover upon the shaft it has been somewhat difficult to properly replace the said bearings of the flexible

shaft upon the cooperating bearings of the casing or cover because of the length of the cover and the difficulty of holding the upper end in place while working the shaft through to its lower bearings. To facilitate the operation, I form the socket in the large lower end of the reducer 11 of a size to receive telescopically the end of the sleeve 16, in which the flexible shaft 19 has a bearing and to which the end piece 17 of the casing 10 is fastened by the set-screw 20. When in normal operation, the said sleeve 16 is permitted to drop down below the end of the reducer and is permitted a limited longitudinal play on the lower end of the spindle, so there will be no binding due to the various contortions of the flexible shaft and casing. After the operation of greasing the case or cover 10 is slipped over the said flexible shaft, the upper end piece 17 of said cover being fastened to the sleeve 16 by set-screws 20. The said sleeve 16 is then inserted into the socket of the reducer 11 and fastened by the set-screw 18. The operator may then release his hand from the upper parts mentioned and is free to pass to the lower end of the flexible shaft and case and to shake said parts, so that the lower end of said flexible shaft will work through the cover and enter into proper relation to the end bearing thereof, at which it is held in place in any usual manner. After said flexible shaft is fitted and secured to said bearing at the lower end of said casing the set-screw 18 is turned and the sleeve released, so that the said sleeve and the cover attached thereto will drop back into proper operative relation to the spindle. The upper end of the said sleeve 16 is provided with a recess or concavity 25, Fig. 4, which serves as an oil-cup or to direct the oil upon the spindle and prevent said oil from dripping or flowing over the outside of said sleeve and its attachments.

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

1. In a clipping and grooming machine the combination with the balance-arm *f*, having a bearing for the spindle, a flexible shaft the spindle 9, adapted to receive the flexible shaft, and means for rotating said spindle, of a sleeve 16, adapted to be attached to the casing, means for fixing said sleeve to said bearing, and said casing adapted to cover the flexible shaft, substantially as set forth.

2. In a clipping and grooming machine, the combination with the balance-arm *f*, having a frame with a tubular bearing *n*, a reducer 11, attached to said bearing, a spindle arranged in said tubular bearing and adapted to receive and operate the flexible shaft and means for operating said spindle, of a sleeve 16, adapted to enter the said reducer, means for fastening the same therein and a flexible cover and means for fastening the same to said sleeve, substantially as set forth.

3. In a clipping and grooming machine, the combination with the balance-arm, a spindle and flexible shaft attached thereto, a cover

for said shaft removable from said shaft, a sleeve attached to said cover and a set-screw 18, for fastening said sleeve to said balance-arm and permitting an easy unfastening, substantially as set forth.

4. In a clipping and grooming machine, the combination with the balance-arm *f*, pulley 8, spindle and flexible shaft, of an idle-pulley *g*, and the adjustable hanger or carrier therefor, and means for fastening said hanger or carrier at any point of adjustment on said arm, substantially as set forth.

5. In a clipping and grooming machine, the combination with the balance-arm, *f*, spindle, and rotating means, of a frame *l*, having the tubular bearings *m*, *m*, cast integrally therein to receive said arm and spindle and hold the same approximately at right angles to one another, and an elastic bumper arranged at the extremity of the upper of said tubular parts, substantially as set forth.

6. In a clipping and grooming machine, the combination with the balance-arm, spindle and rotating means, of a frame *l*, having tubular bearings arranged substantially at right angles one to the other and having lips *o*, *o*, and a brace *p*, extending from bearing to bearing in a plane parallel with the plane of the body of said frame and means for fastening said frame to the balance-arm, substantially as set forth.

7. In a clipping and grooming machine, the combination with the balance-arm, spindle, flexible shaft, and operating means, of an elastic bumper to cushion impact of the upward-moving arm, substantially as set forth.

8. In a clipping and grooming machine, the combination with the balance-arm, spindle, flexible shaft and operating means, of the cushion *r*, fastened upon the end of said arm, substantially as set forth.

9. In a clipping and grooming machine, the combination with the balance-arm, frame having tubular bearings at approximately right angles to one another, a spindle, flexible shaft, and driving means, of the bumper *r*, shaft or rod *q*, and fastening means, substantially as set forth.

10. In a clipping and grooming machine, the combination with the balance-arm, frame having tubular bearings at approximately right angles to one another, means for fastening said frame to said arm, a roller-bearing, block *t*, balls *w*, washer *v*, retainer *t'*, spindle and pulley, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 15th day of February, 1898.

CHARLES W. POTTER.

Witnesses:

CHARLES H. PELL,
C. B. PITNEY.