

(No Model.)

H. L. PRATT.
AUGER HANDLE.

No. 438,860.

Patented Oct. 21, 1890.

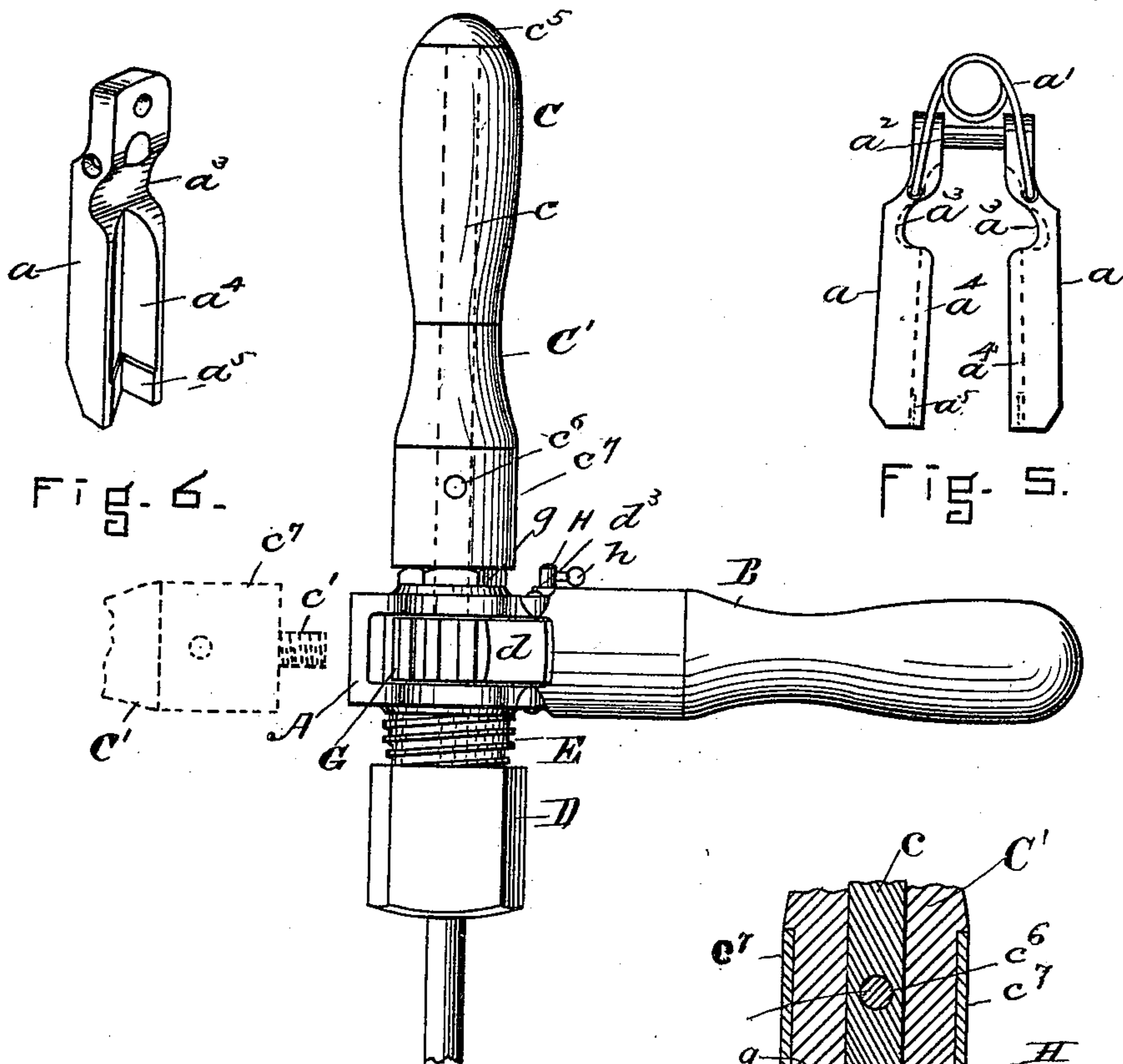


Fig. 6.

Fig. 5.

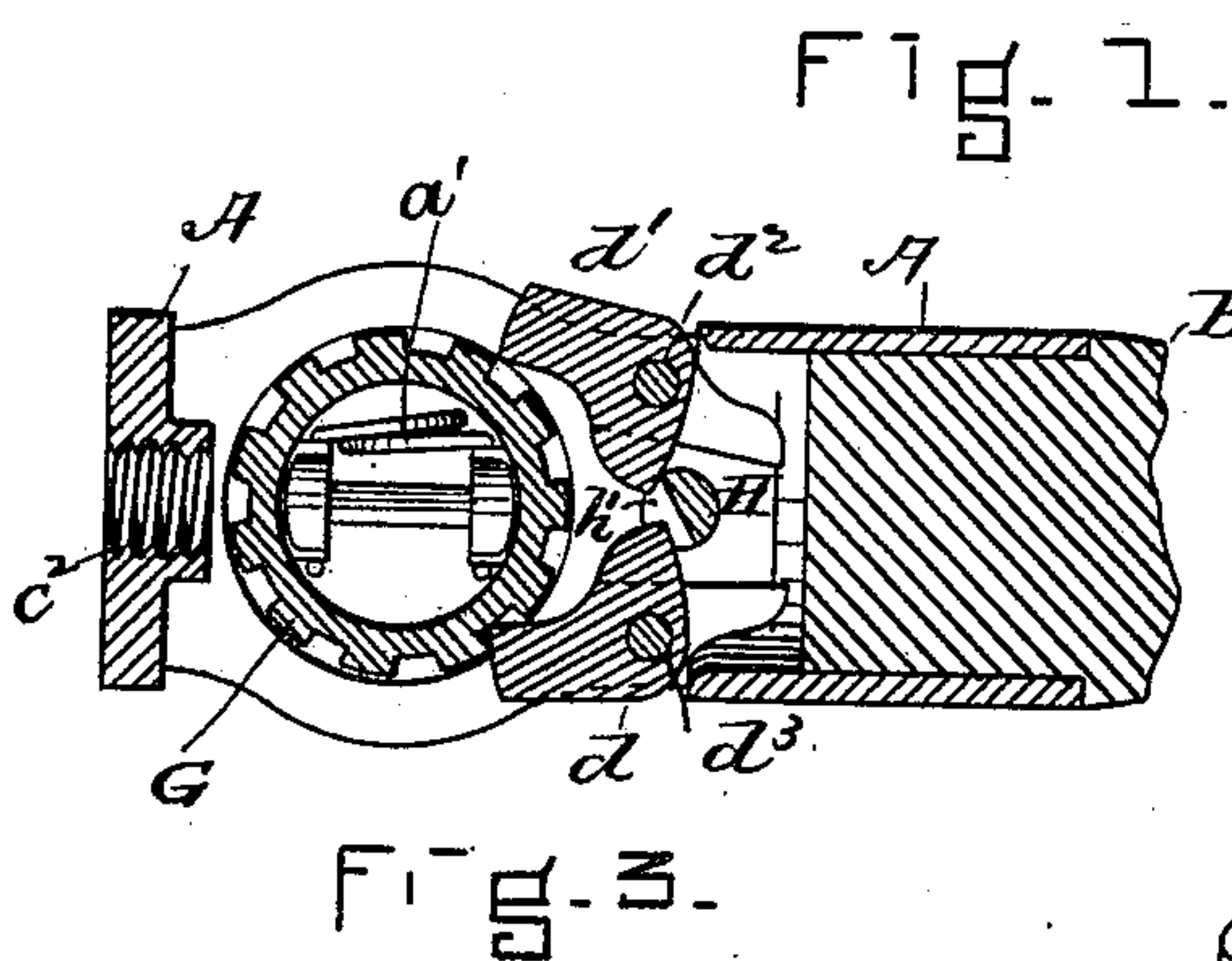


Fig. 3.

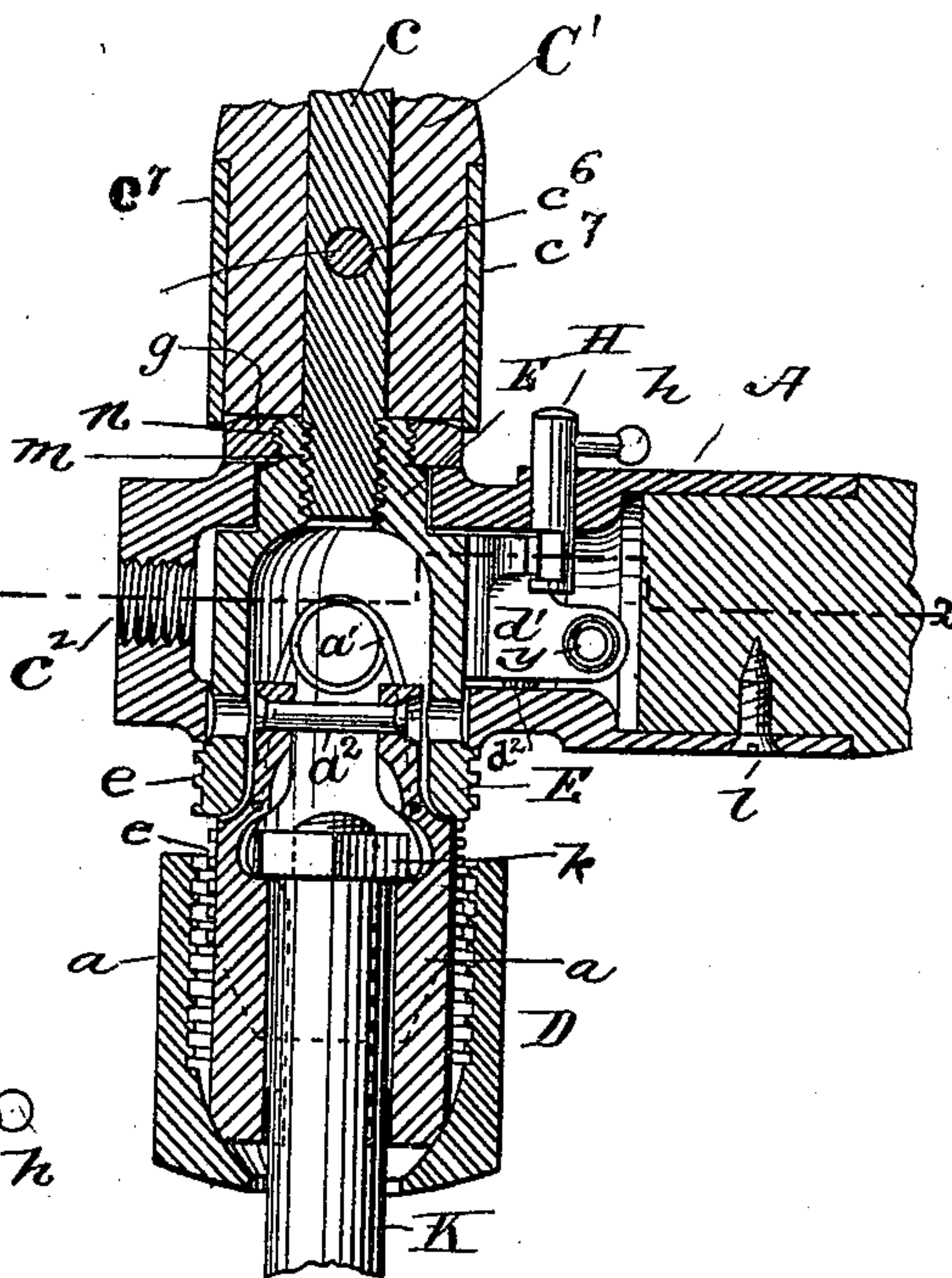


Fig. 2. INVENTOR.

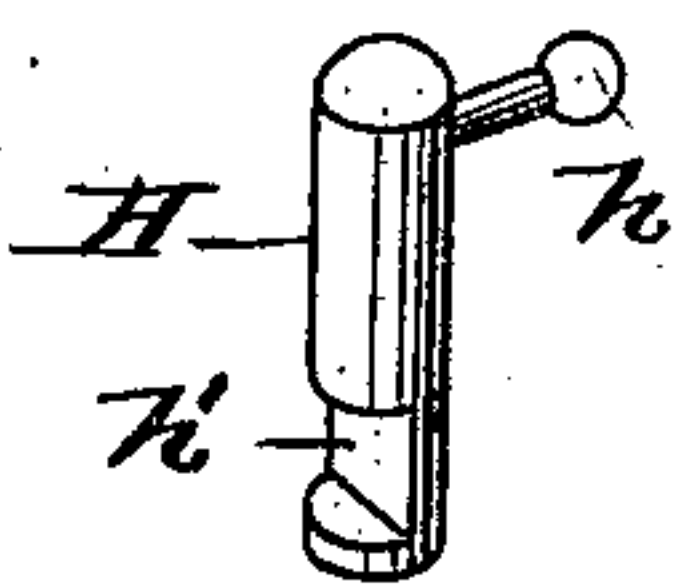


Fig. 4.

WITNESSES.

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UNITED STATES PATENT OFFICE.

HENRY L. PRATT, OF BROOKLYN, NEW YORK, ASSIGNOR TO THE MILLER'S FALLS COMPANY, OF MILLER'S FALLS, MASSACHUSETTS.

AUGER-HANDLE.

SPECIFICATION forming part of Letters Patent No. 438,860, dated October 21, 1890.

Application filed February 26, 1890. Serial No. 341,839. (No model.)

To all whom it may concern:

Be it known that I, HENRY L. PRATT, of Brooklyn, in the county of Kings and State of New York, have invented a certain new and
5 useful Improvement in Ratchet Auger-Handles, of which the following, taken in connection with the accompanying drawings, is a specification.

Like letters of reference indicate corresponding parts.

My present invention relates to that class of mechanics' tools known in the trade as "ratchet auger-handles."

In the drawings, Figure 1 is a general view
15 of the device with a bit or auger shank in position for use. Fig. 2 is a sectional view in which the parts are illustrated. Fig. 3 is a sectional view on line X X of Fig. 2. Fig. 4 represents a cam used as a part of the device,
20 and is hereinafter explained. Fig. 5 represents a pair of jaws and their inside form. Fig. 6 represents the form of the jaws inside.

My present invention has special reference to a tool-handle arranged so that it can be
25 used as an ordinary tool-holding and tool-operating handle for augers, drills, &c., and also as a ratchet-handle adapted to work either to the right or to the left and in all positions.

The device consists, broadly, of a central
30 body with preferably one fixed and one revolving handle, the latter removably secured to the said body and adapted to be adjusted in line with or at a right angle to the other handle, a central core or socket adapted to
35 revolve in the body and provided with a ratchet-wheel, said socket also arranged to receive and hold the jaws, a pair of pawls, jaws, and suitable operating parts.

Referring to the drawings, A is the metal
40 body; B, one of the handles, preferably of wood, formed to be socketed in one side of the body and held in place by screw *l*; C, the other handle, preferably formed of the wood parts C and C', with a central rod *c* running
45 through its length and secured to the part C by a nut or cap *c*⁵. The rod *c* has a screw-thread *c*' on one end. The part C is formed to revolve on rod *c*. The part C' is secured to the rod *c* by a screw or rivet *c*⁶ passing
50 through the ferrule *c*⁷. The completed han-

dle is detachably secured to the body by the screw *c*' being turned into screw-threaded hole *c*² in the body A, as shown in Figs. 1 and 2.

Inside of body A is placed the socket-piece E.
55 This socket has the exteriorly-screw-threaded part *e*, upon which the shell D is screwed. The socket is cut out to receive the jaws *a a*, as is usual in this class of holding devices, and is also suitably chamfered to accommo-
60 date the spring *a'* as the jaws *a a* open and close. The upper part of the socket-piece is formed round and is journaled in the central portion of the body A. A thread *n* is cut on
65 the upper end of the socket, which passes through the body A, upon which end a nut *g* is screwed, which thus holds the socket-piece in the body A, while permitting the said
70 socket-piece E to freely revolve. In the upper end of socket E is formed a screw-threaded hole *m*, into which the screw end of rod *c* (the screw part being marked *c*') of handle C is
75 removably secured to the socket E, as illustrated in Fig. 1. The exterior of socket-piece E is round, and on the part which revolves
in the body A is formed a ratchet G, Figs. 1 and 3.

In the body A are placed two pawls *d* and *d'*. Said pawls are secured to the body by
80 pivots *d*² *d*³. The pawls *d* and *d'* act on the ratchet-wheel G formed in socket-piece E—one on each side of said ratchet, as indicated in Fig. 3. In the body A is also placed a cam
85 H with lever *h*. Said cam H is formed, as shown in Fig. 4, with the part *h* cut out.

The operation of the cam H is illustrated in the sectional view, Fig. 3, in which it is represented as partly turned, so that pawl *d'* is thrown out of the ratchet-connection, while
90 the pawl *d* is resting in the teeth of the ratchet. It is evident that by a slight turning of the lever *h* to the right or left the cam will be turned in corresponding direction, and when
95 the slot *h'* is straight across it will permit both pawls to be free to engage the ratchet G—one on each side. The pawl *d* engaging-
ratchet will of course prevent the ratchet and socket (of which it is a part) from turning
100 in its direction, and when pawl *d'* rests in the ratchet the socket cannot turn in its di-

rection, so that by simply adjusting the cam either one or both pawls d d' may be engaged in ratchet G, or one or both may be disengaged at pleasure, thus adapting the handle to different kinds of work, as hereinafter explained.

It will be observed that the cam H is formed round, with the opening or slot h' upon one side. Now in operation, when the ends of both pawls d d' rest in the slot or opening h' , both pawls will be free to be forced into the notches of the ratchet-wheel by the spring g ; but if the cam H is partially turned, as shown in Fig. 3, one pawl will be raised, while the other will remain in the ratchet-notch. By turning the cam H in the opposite direction the position of the two pawls will be reversed. If, however, it is desired to raise both pawls, it may be accomplished by turning the cam H in either direction, so that the inner ends of both pawls will rest upon the rounded side of the cam. In other words, if neither of the pawl ends rest in the opening h' of cam H, but instead both rest on the rounded part of cam, then both pawls will remain raised from the notches in the ratchet-wheel and the ratchet-wheel and socket E will be free to turn in either direction. This ability to disengage both pawls and allow a free movement of the socket E is frequently of great convenience in use, as in cramped positions the socket cannot be turned but slowly by the handle; but when free the socket can be rapidly revolved by the hand. It is also useful in various adjustments in practice, as much time can thereby be saved. This feature I deem of much value, and believe it is peculiar to my invention. The pawls are pressed outward, so that they will fall on ratchet G when released by the slot in the cam by a small spring placed between them, as indicated by y , Fig. 2.

The jaws are made substantially in the form shown in Fig. 5, and preferably having the pin a^2 with one end secured to one jaw and the other end working loosely in the opposite jaw. The two jaws a a are connected by spring a' , as shown, the said spring acting to open and steady the jaws in use. The pair of jaws thus united are removably held in the open lower end of the socket E, as customary. The inside of each jaw is formed substantially V-shaped, as shown in Fig. 6, with preferably the raised part a^5 , the offset a^4 , and especially with the depression a^3 , formed as shown in Fig. 6. The depression a^3 is peculiar to my present invention and is of special importance.

The shoulder or raised portion a^5 of the jaw-groove is designed for claspings over the nib or neck of the usual square tapered bit-shank. The offset or depression a^4 of the jaw-groove is formed to fit the ordinary corner of the bit-shank, and the depression a^3 is especially designed to receive and firmly grasp auger-bits having a nut on the end of

the square shank. The nut of the auger-bit shank when placed in the jaws a will fall into the depression a^3 , and when the shell is screwed on and the jaws are closed on the shank it is impossible to loosen or remove the auger-bit from the handle by any use to which it can be subjected. The ratchet part of the socket and the pawls are accommodated by a slot formed in the body A, as indicated. The nut or shell D is threaded internally and adapted to be screwed on over the jaws upon the threaded lower end of the socket part, as indicated by e , in the usual manner.

The operation of the handle is as follows: The shell D being sufficiently removed by turning it outward upon the threaded end e of socket E, the shank of the bit, tool, drill, or auger is introduced between the jaws, and by screwing the shell D inward the shank is drawn in and tightly compressed by the jaws. In the drawings, Fig. 2, I have illustrated the operation in connection with an auger which usually has a nut k upon its extreme end. When the auger-shank is placed in the jaws a , the nut k rests in the depression a^3 of the jaws formed for that purpose. The auger-shank and its nut thus secured and the jaws closed cannot be removed by any strain or force applied to the auger. This is an important feature of my present invention. Now the auger being thus held, by turning the cam H so that the slot h' is presented to the pawl ends the spring y will throw the opposite ends of each pawl in the ratchet and the socket E will be firmly held from revolving in the body A, and the auger and all the parts become rigid and can be turned in either direction with the same facility as if the auger were rigidly secured to an ordinary handle. For common use the handle C C' is of course screwed to the body A at c^2 , making a handle upon each side of the body A. If, however, it is desirable to bore a hole in a corner or in a position where the handles cannot be readily revolved the handle C C' is removed from c^2 and inserted in m , and then by releasing pawl d' , the pawl d continuing to engage the ratchet, the tool can be held in position by handle C C' and operated by partial revolutions of handle B, upon the principle of a ratchet-drill. Should the auger stick in the wood and be difficult of removal, by turning the cam H pawl d would be released and pawl d' would engage the ratchet and the operation of handle B could be reversed until the auger was released.

The device herein described can be used in a variety of ways and positions and for a great number of purposes that would be impossible in an ordinary handle.

The device can be used to operate a drill upon the ordinary ratchet principle; but it is designed with special reference to the holding and operating of augers provided with a nut, and which are better held and more perfectly operated in any position and under all

circumstances than by any handle known to me.

The handle C C' is preferably made as described, so that the part C may be held in the hand and the balance of the parts revolved. The feature of a loose handle is therefore important to the best results, especially when inserted in *m*, Fig. 2, to be operated as shown in Fig. 1. In said position (shown in Fig. 1) the handle C steadies and guides the operation of the bit, auger, or drill most perfectly.

I do not confine myself to a loose handle, as if the handle C C' were made of one solid piece the principle of my invention would be the same. The handle B could also be made both removable and revolving, if desired, though there would be no particular gain if so constructed.

Having now described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. The combination, in a ratchet auger-handle or similar tool, of the pawls *d d'*, the spring *y*, and the cam H, said cam formed, as described, with the opening *h'* upon one side, and all so arranged that either one or both pawls may be disengaged from the ratchet, substantially as and for the purposes set forth.

2. In a ratchet auger-handle, the pawls *d d'*, formed as described, the spring *y*, adapted to press the pawls upon the ratchet, and the cam H, formed with the opening *h'*, and arranged and adapted to disengage at the same time either one or both pawls from the ratchet, and all combined in an auger-handle, with the revolving socket E, provided with the ratchet G, substantially as and for the purposes set forth.

3. In a ratchet-handle, the body A, in combination with the handle B and removable handle C, adapted to be secured to the body in a line opposite handle B or at a right angle to it, substantially as and for the purposes set forth.

4. The within-described ratchet-handle, consisting of the body A, handle B, removable handle C, adapted to be secured to body A either on a line with handle B or at a right angle to it, the socket E, provided with the

ratchet G, adapted to be held by pawls *d* and *d'*, said socket adapted to revolve in body A, and arranged to hold suitable jaws, and a shell adapted to secure an auger or other tool to the socket, all combined and adapted to operate substantially as and for the purposes set forth.

5. In a ratchet-handle, the body A, provided with handle B and handle C, the said handle C adapted to be removably secured to socket E and to be used at right angle to handle B, in combination with the revolving socket E, having the nut *g*, by which it is secured to said body A, and the said socket provided with the screw-threaded hole *m*, and suitable means of revolving said socket, all substantially as and for the purposes set forth.

6. In an auger-handle provided with a suitable socket and shell, and in combination therewith, the jaws *a*, formed with the V-shaped grooves, as described, and the depression *a³* in the lower part of said jaws, adapted to receive and hold the nut of an auger-shank when inserted in the jaws in connection with said shank, and the offsets *a⁴* and *a⁵*, said jaws provided with the spring *a'* and pin *a²*, and all arranged substantially as and for the purposes set forth.

7. In an auger-handle, and in combination therewith, the jaws *a*, each having the depression *a³* near the inner end thereof, adapted to receive the nut of the auger-shank of the auger to be used with said handle, substantially as and for the purposes set forth.

8. In a ratchet-handle, the body A, provided with threaded hole *c²*, the socket E, provided with the hole *m*, and the detachable handle C, having the screw-ended stud or rod *c*, combined and adapted to be used in connection with ratchet mechanism, all substantially as and for the purposes set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 21st day of February, A. D. 1890.

HENRY L. PRATT.

Witnesses:

EDWIN H. PRATT,

HOWARD E. STOUGHTON.