

W. H. WATSON.
MACHINE FOR PRESSING TOBACCO.

No. 60,100.

Patented Nov. 27, 1866.

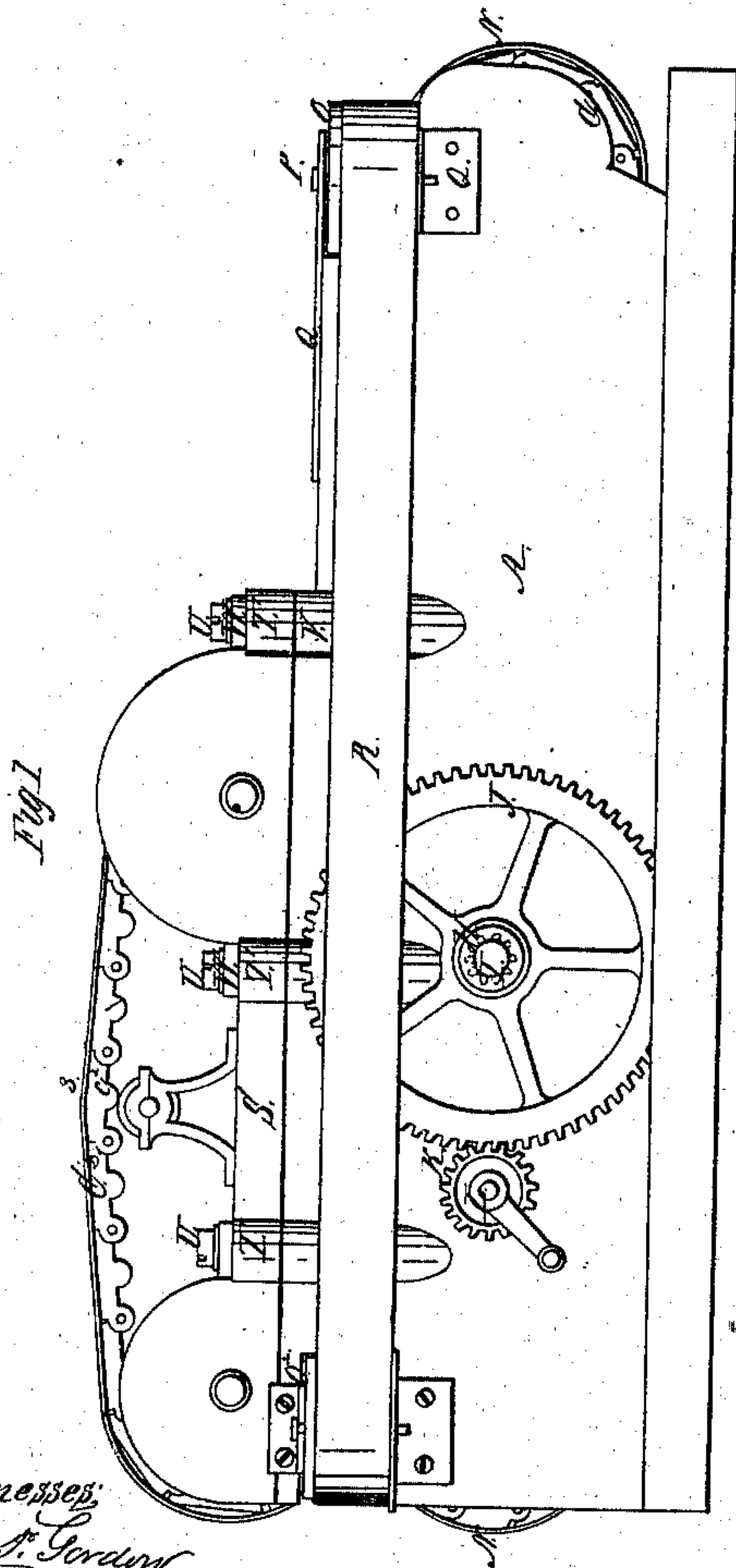
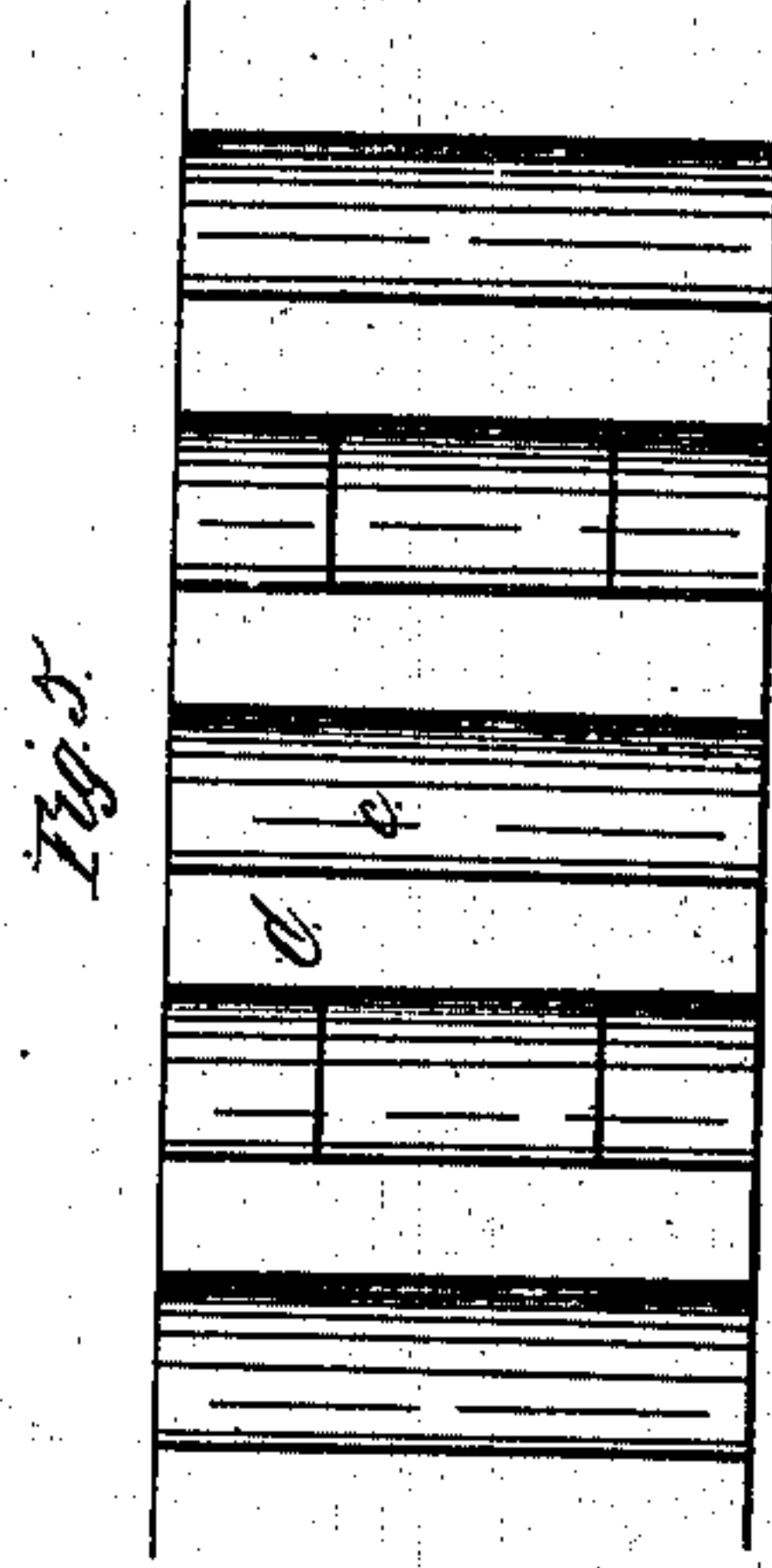
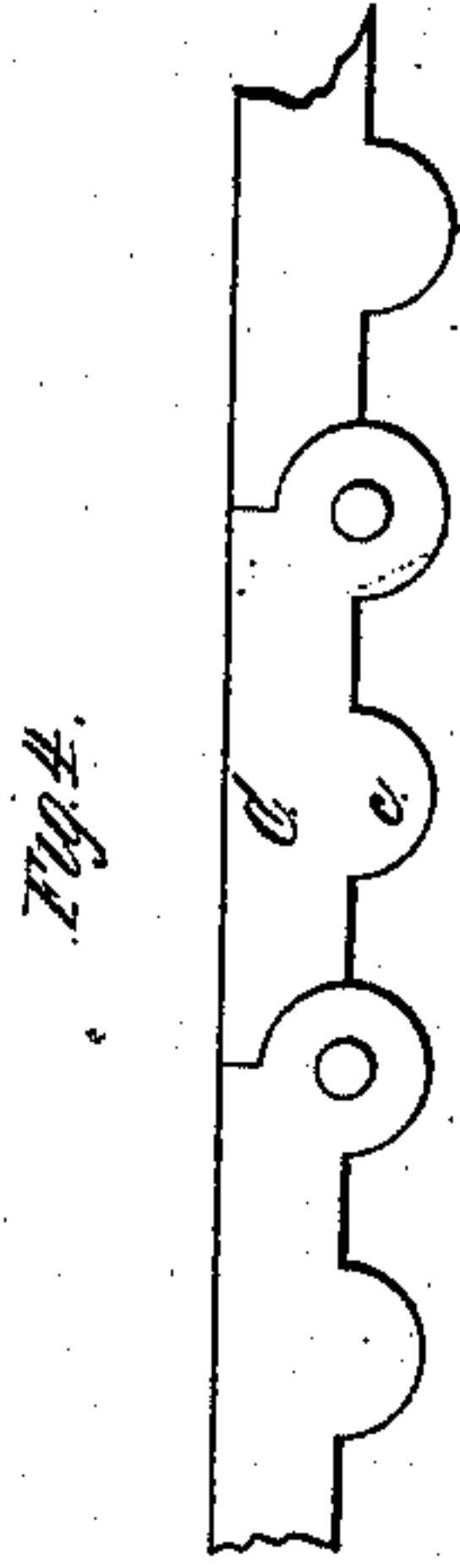
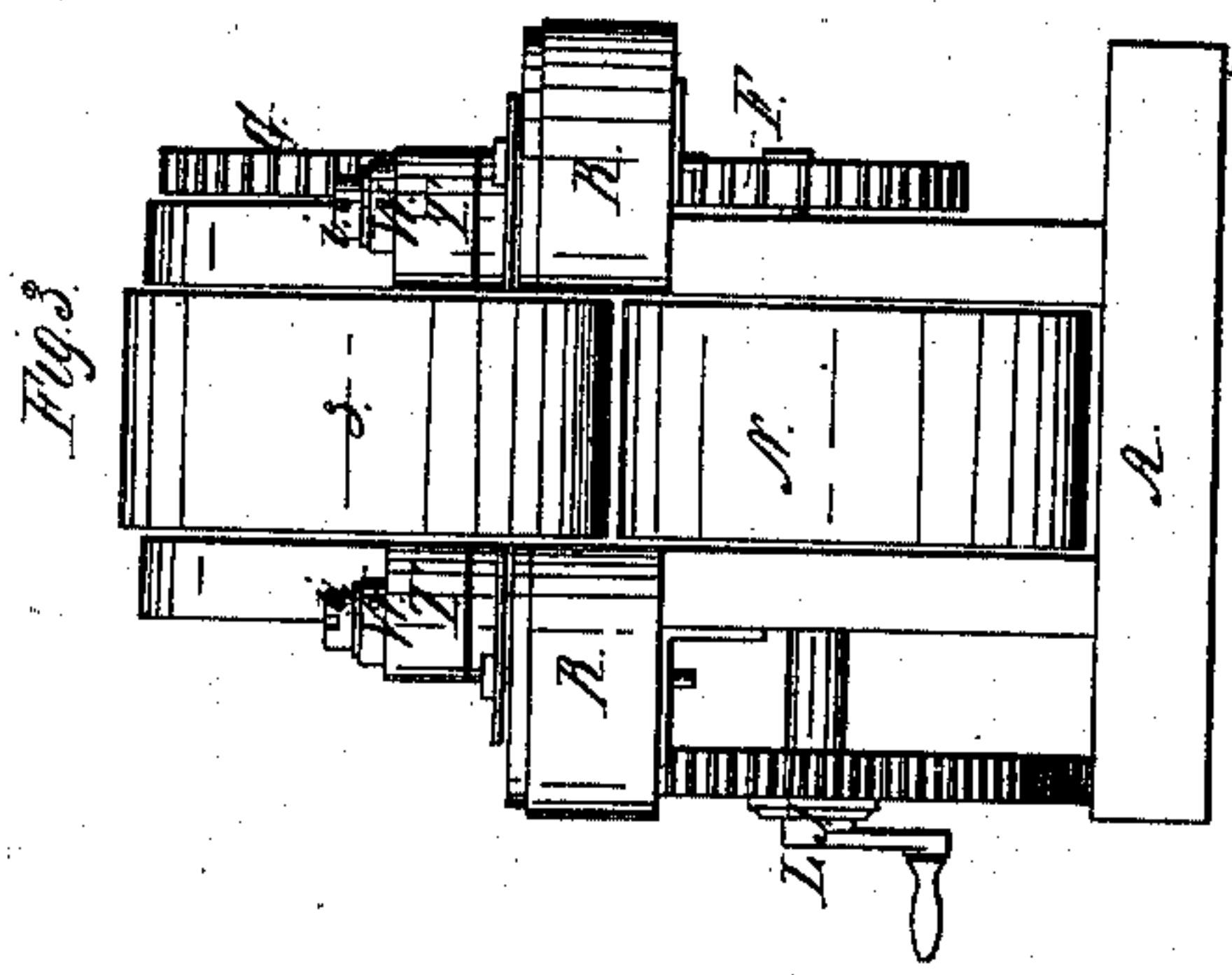
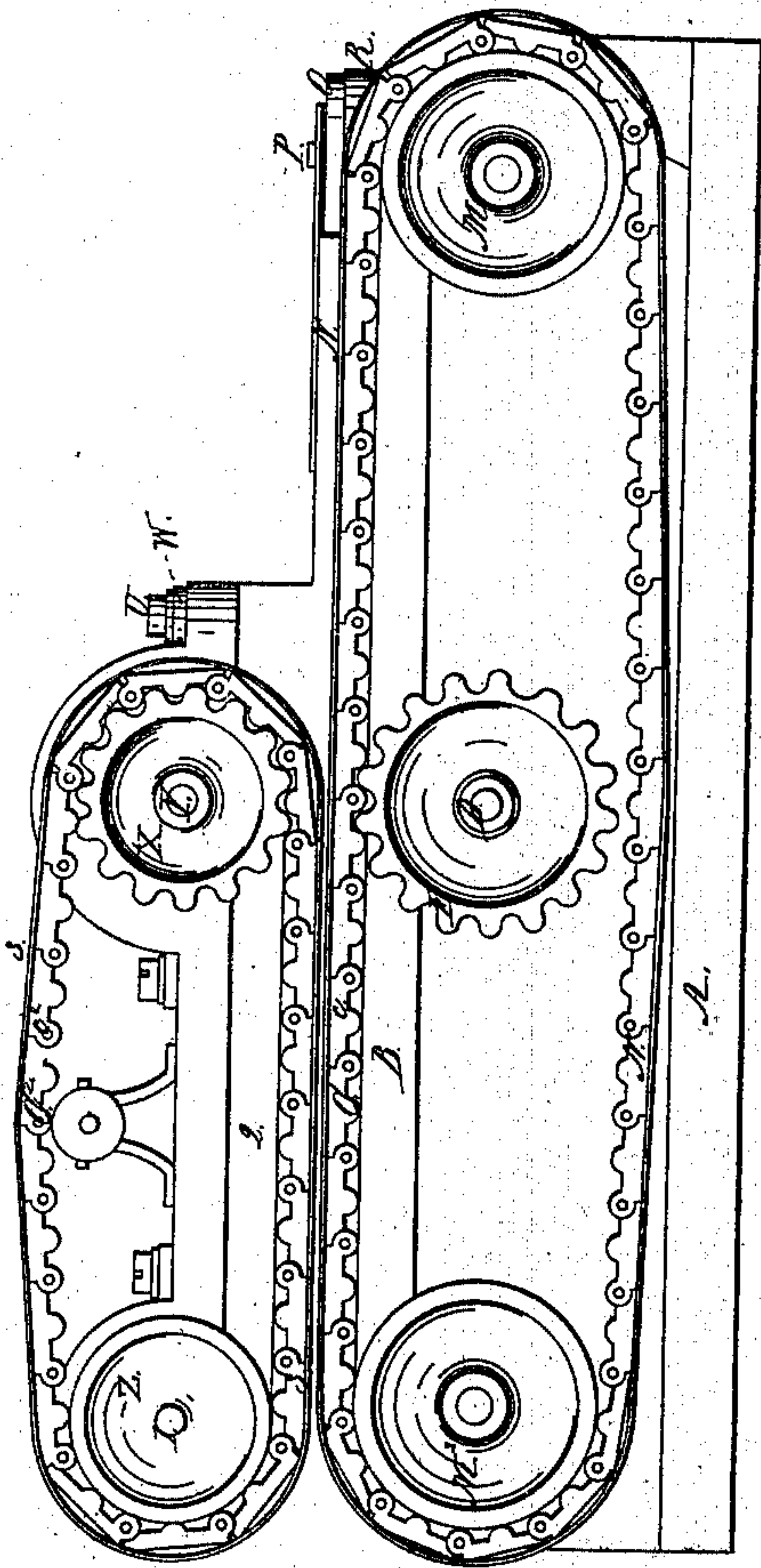


Fig. 1.



Witnesses:
G. S. Jordan
H. Davis

Inventor:
W. H. Watson
Attest: James A. W.

United States Patent Office.

IMPROVEMENT IN MACHINE FOR PRESSING TOBACCO.

WILLIAM H. WATSON, OF YONKERS, NEW YORK.

Letters Patent No. 60,100, dated November 27, 1866; antedated October 10, 1866.

SPECIFICATION.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, WILLIAM H. WATSON, of Yonkers, in the county of Westchester, and State of New York, have invented, made, and applied to use, a new and improved Machine for Pressing Tobacco; and I do declare the following to be a full, clear, and correct description thereof, reference being had to the accompanying drawings, making part of this specification, and to the letters of reference thereon, in which—

Figure 1 is a side elevation of my improved machine for pressing tobacco.

Figure 2, a longitudinal section of the same.

Figure 3, an end view of the same.

Figure 4, a top view of one of the chains and main belts employed.

Figure 5, a bottom view of the same.

In the drawings, like parts of the invention are designated by the same letters of reference.

The nature of my invention consists:

a. In giving to the tobacco a gradual pressure before the actual pressure takes place, for the purpose hereinafter specified.

b. In retaining the tobacco under a uniform pressure, for the purpose of giving solidity to the sheet formed.

c. In the use or employment of the side belts in combination with the main belts, to facilitate the feeding of the tobacco, and to prevent the adhesion of the tobacco to the sides of the machine, and to give a smooth surface to the edge of the pressed tobacco.

d. In the use and employment of the endless chains in combination with the set-screws and springs, for the purpose hereinafter specified.

e. In the use or employment of the main belts in combination with the chains, for the purpose of preventing the adhesion of the tobacco to the chains, and to give a smooth surface to the pressed tobacco.

f. In the use or employment of the side belts with the chains, for the purpose hereinafter specified.

To enable those skilled in the arts to make and use my invention, I will speak of its construction and operation.

A shows a framework for supporting the working parts of my improved machine, and B is a bearing upon which the chain C, travels. This chain, C, is formed of a series of toothed plates or links, c, of brass or any suitable material, linked or joined together. D is a shaft, inserted about the centre of the framework, A. This shaft has held upon it the cog-wheel E, the bearing, B, being slotted sufficiently to allow said cog-wheel E to revolve freely, and to gear into the chain C. Upon one end of this shaft, D, is secured the toothed wheel F, gearing into the toothed wheel G, and into the pinion H. I shows a shaft, held in the frame A; upon one end of this shaft I, is the pinion H, and upon its opposite end the cog-wheel J, gearing into the pinion K, upon the shaft L. M and M² show rollers held upon shafts inserted at each end of the machine. Over these rollers, M¹ M², the chain C passes in its transit when the machine is in motion, and the rollers should be so placed that their outer surface shall be on a line or nearly on a line with the bearing B. N shows a belt of metal, or any suitable material, placed directly over and resting upon and moving with the chain C. O and O² show rollers upon the spindles P, said spindles being held in the lugs Q, attached to the frame A. R are the side belts, formed of metal or any suitable material, which belts R pass over the rollers O and O², and bear directly upon the inside of the frame A. S is a secondary frame. This frame S is provided with the lugs T. U shows bolts inserted in the lugs T, and screwed into the lugs V, upon the frame S, for the purpose of holding the frames A and S, together, and to allow the adjustment of the chains to the thickness required for the sheet of tobacco to be formed. W shows a collar, placed upon the bolt U, between the bolt-head and the lug T. Within this collar, W, is placed a spring of rubber or any suitable material, which spring permits the upper chain, C², to rise in case too much tobacco or any foreign substance should be fed into the machine. X shows a cog-wheel, held upon the shaft Y, held in the frame S. Z is a roller held upon the shaft I, inserted in the frame S. C² shows a secondary or upper chain, formed of a series of toothed plates or links, c², of brass or any suitable material, linked or joined together. This chain, C², gears into the cog-wheel X, passes over the roller Z, and bears directly upon the under surface of the bearing 2 of the frame S. 3 shows a belt of metal or any suitable material, placed directly over and resting upon and moving with the chain C².

The machine being thus constructed, its operation is as follows: Motion being imparted to the shaft L, sets

all the parts of the machine in operation. The tobacco to be pressed is placed upon the belt N, between the side belts R. The chains C and C², operated by the toothed wheels E and X, are carried forward, the chain C passing over the rollers M and M² and the bearing B, and the chain C² over the roller Z and under the bearing 2. As the chain C advances it carries with it the belt N. As the tobacco is carried forward upon this belt, N, resting upon the chain C, the side belts R, from the lateral pressure of the tobacco and the friction resulting from the forward movement of the chain C, are set in motion, following or accompanying the tobacco in its transit through the machine, and preventing its adhesion to the sides of the frame A, and giving a smooth surface to the edges of the sheet formed.

The tobacco to be pressed is thus carried forward upon the belt, N, and between the side belts, R, until it enters between the belts N and 3, where it receives a gradual pressure, which gradual pressure is rendered necessary that the tobacco may not be crushed or ground when the actual pressure takes place. This gradual pressure results from the fact that the belt 3, moving with the chain C², bears lightly upon the tobacco, until the tobacco has passed the centre of the shaft, Y, upon which the cog-wheel X is held. The tobacco having been carried past the centre of the shaft Y, is submitted to a uniform pressure between the belts N and 3, resting upon and travelling with the chains C and C², by which pressure the requisite thickness, solidity, and smoothness are given to the sheet formed; this uniform pressure being given to the tobacco in its passage from the centre of the shaft Y, to the centre of the shaft 1. The tobacco having been thus formed, the continuous sheet is delivered from the machine, between the rollers 2 and M². The tobacco may be subsequently cut up into plugs of the desired size and shape. In the machine first described, it will be perceived that the tobacco is submitted first to a gradual pressure and then to a uniform pressure, the object being that the gradual pressure may, as it were, partially unite the leaves of parts of leaves of tobacco, preparatory to a thorough union of the same; thus relieving the machine from the disadvantage of crushing and destroying (by pulverizing) the tobacco intended to be pressed. While I have shown this machine provided with the belts N and 3, I am well aware that in some cases these belts may be dispensed with, although the employment of them prevents the adhesion of the tobacco to the chains C and C², and gives a smoothness to the sheet of tobacco formed. The advantages arising from the use of a machine thus constructed and operated, consist in the facts that a better and more salable article of sheet tobacco is produced from the same quality of tobacco than by hand, and that where this machine is used for pressing the filler of plug tobacco fully fifty per cent. (50 per cent.) is saved over the methods usually employed.

Having thus described my invention, what I claim as new therein, and desire to secure by Letters Patent, is—

1. Giving to the tobacco a gradual pressure, substantially as shown, prior to the actual or uniform pressure for the purpose specified.
2. Retaining the tobacco under a uniform pressure, substantially as shown, for the purpose of giving solidity to the sheet formed.
3. The use or employment of the side belts, in combination with the main belts, substantially as shown for the purpose set forth.
4. The use or employment of the chains in combination with the bolts and springs, for the purpose described.
5. The use or employment of the main belts in combination with the chains, for the purpose specified.
6. The use or employment of the side belts, in combination with the chains, for the purpose specified.

W. H. WATSON.

Witnesses:

A. SIDNEY DOANE,
SIDNEY A. JEWETT.