

No. 711,716.

Patented Oct. 21, 1902.

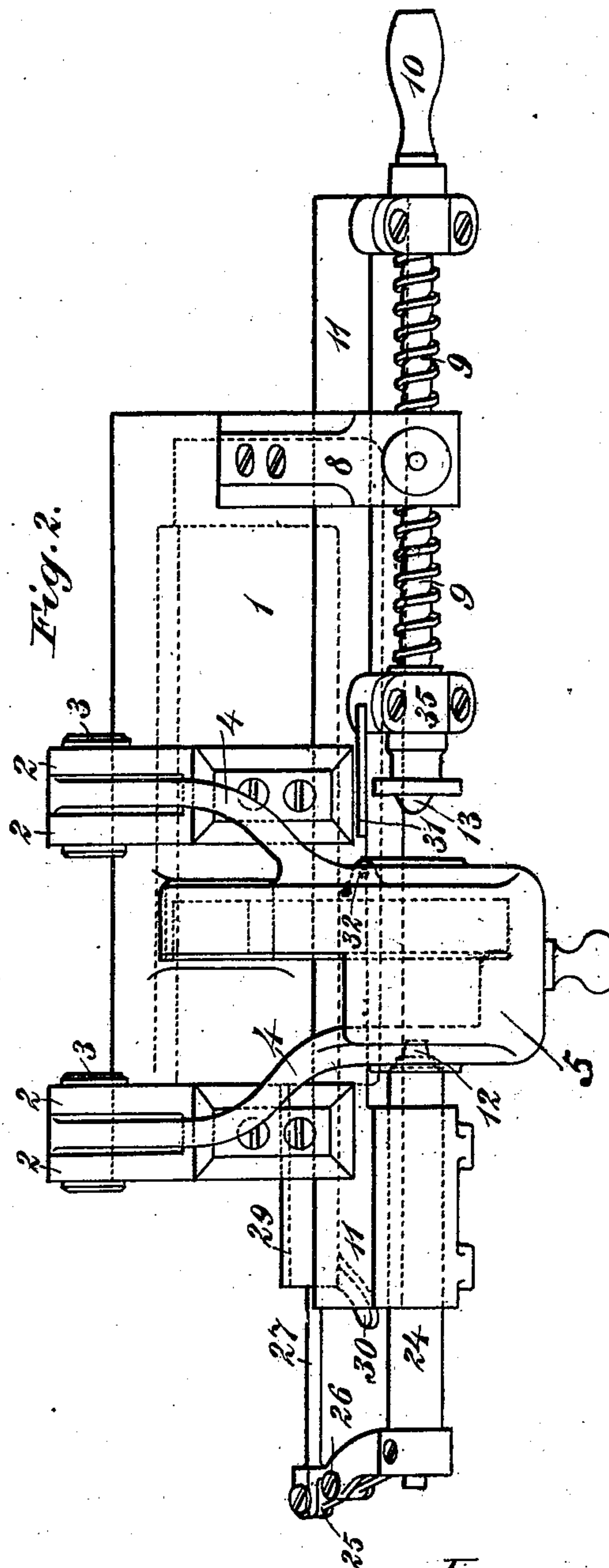
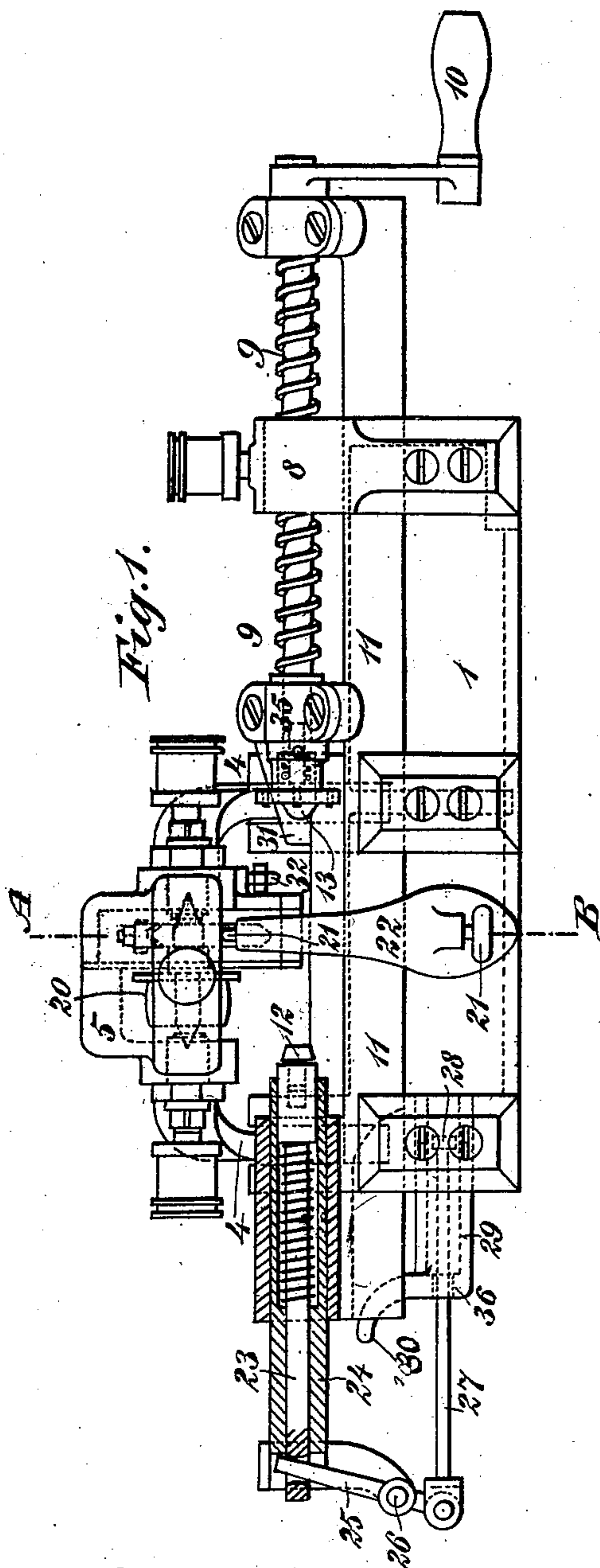
A. COLLET.

MACHINE FOR SCREW THREADING TREENAILS OR THE LIKE.

(Application filed Feb. 16, 1901.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:
J. H. Kliman
Peter N. Ross.

Inventor
Albert Collet,
B-4
Harry Conner
Attorney

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Fig. 3.

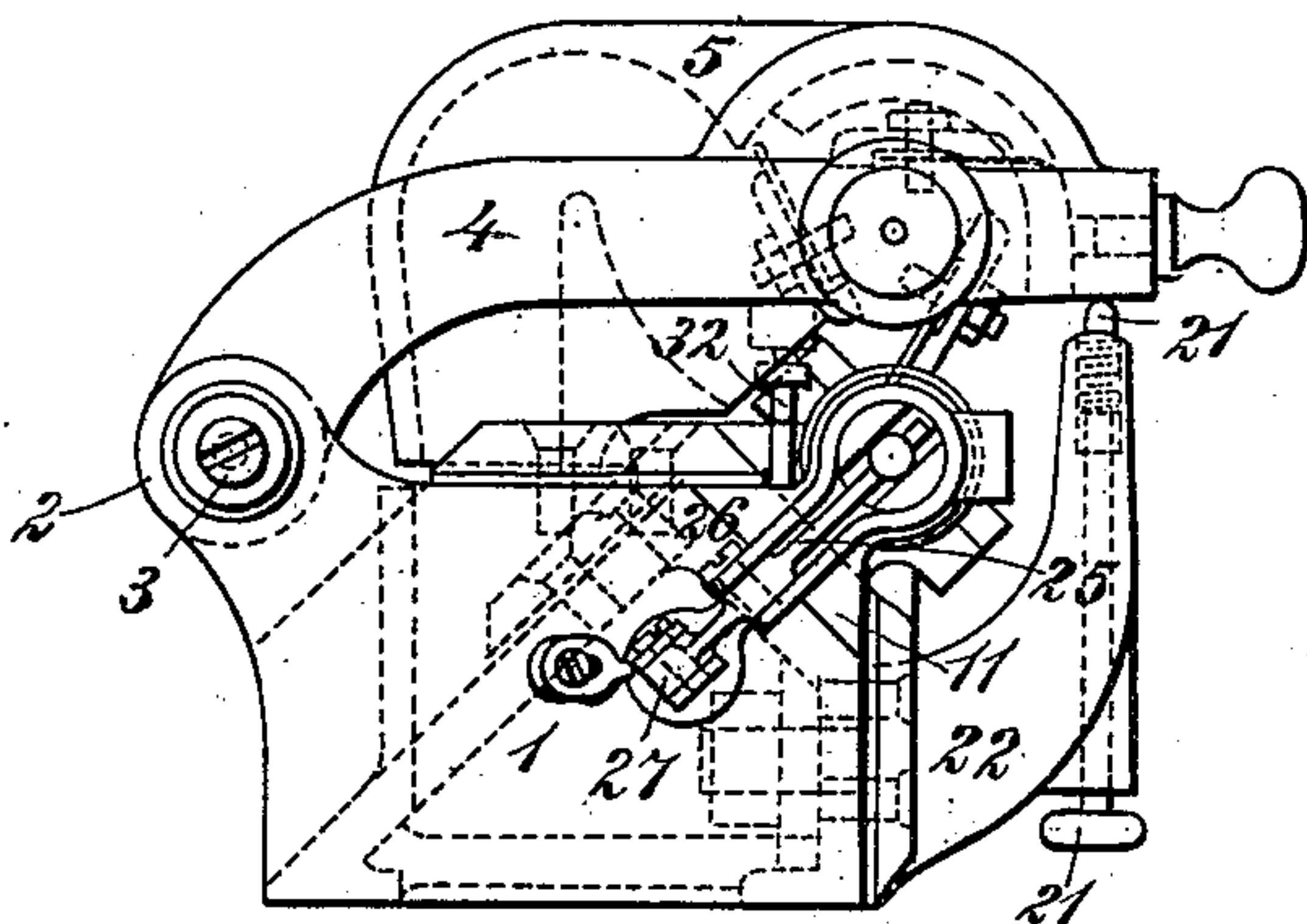


Fig. 4.

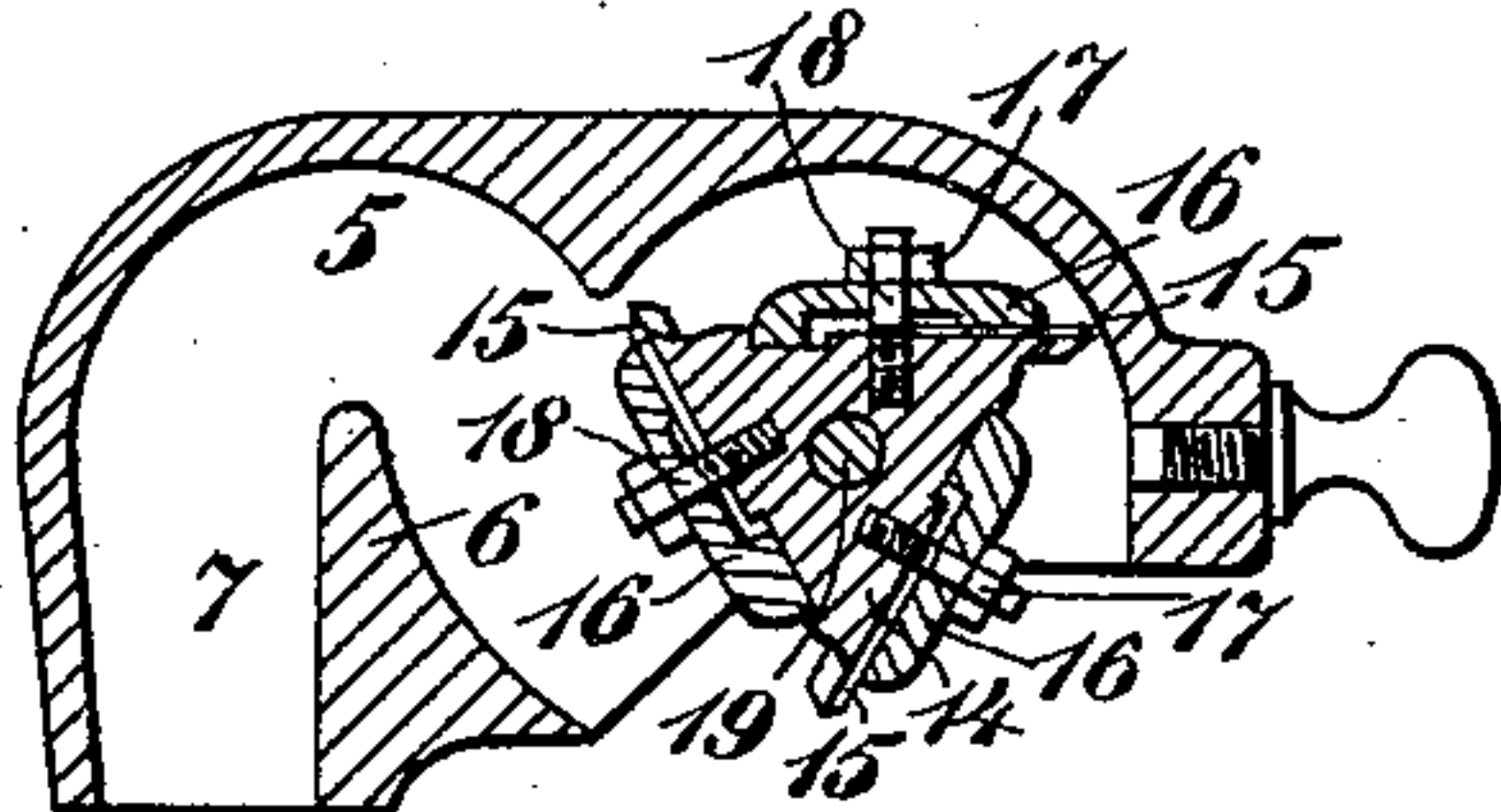


Fig. 5.

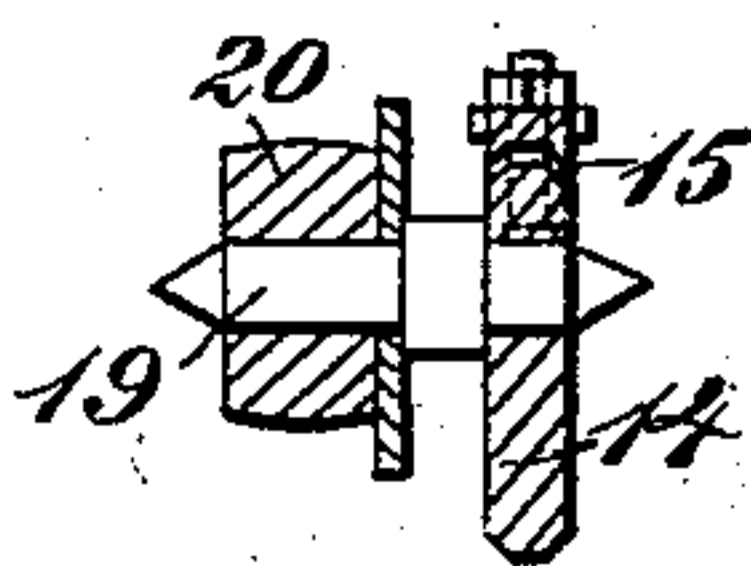


Fig. 6.

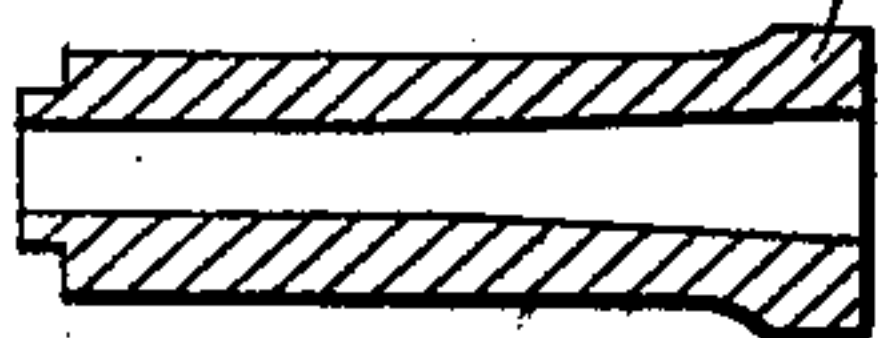
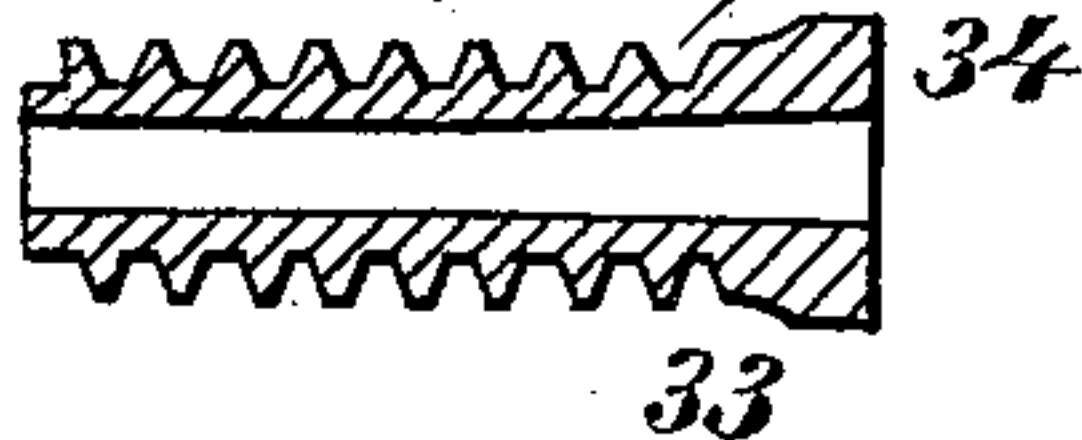


Fig. 7.



Witnesses:

J. V. Uman
Peter A. Ross.

Inventor

Albert Collet
By *Henry Coe*
Attorney

UNITED STATES PATENT OFFICE.

ALBERT COLLET, OF PARIS, FRANCE, ASSIGNOR TO LEO SIMON, OF PARIS, FRANCE.

MACHINE FOR SCREW-THREADING TRENAILS OR THE LIKE.

SPECIFICATION forming part of Letters Patent No. 711,716, dated October 21, 1902.

Application filed February 16, 1901. Serial No. 47,534. (No model.)

To all whom it may concern:

Be it known that I, ALBERT COLLET, a citizen of the French Republic, residing in Paris, France, have invented certain Improvements in Machines for Screw-Threading Trenails or the Like, of which the following is a specification.

This invention relates to a machine for cutting screw-threads upon pieces of wood, and is designed more particularly for screw-threading trenails which have been bored and turned by means of the machine forming the subject of my application for Letters Patent of even date herewith, Serial No. 47,533.

My screw-threading machine comprises a carriage adapted to travel along the thread of a screw which is of the same pitch as that of the thread to be formed upon the trenail, the said carriage being provided with two puppets, between which the trenail is mounted, one of said puppets being displaceable for disengaging the finished trenail and allowing another to be placed in position to be operated upon. The carriage is provided with automatic disengaging mechanism which frees the trenail at the end of the travel when it has been finished.

To enable the construction and operation of my machine to be fully understood, I will describe the same by reference to the accompanying drawings, in which—

Figure 1 is a front elevation, partly in section at the left; Fig. 2, a plan, and Fig. 3 a side elevation, of a screw-threading machine constructed according to my invention. Fig. 4 is a transverse section on the line A B, Fig. 1, showing the tool-covering cap detached. Fig. 5 is a section of the tool and the pulley which drives it. Fig. 6 shows a trenail bored and turned ready to be screw-threaded, and Fig. 7 shows the trenail screw-threaded.

The machine is constructed of a frame 1, provided with lugs 2 2, on which are pivoted at 3 3 arms 4 4, carrying a hollow cap 5, designed to cover the cutting-tool. This cap is provided with a partition 6, serving to form a passage 7 for the discharge of the cuttings which are thrown therein by the turning-tool.

The frame 1 carries an arm 8, forming a fixed nut in which works a screw 9, which is rotated by means of a crank-handle 10. The

crank-handle is designed to effect the movement of the traveling carriage 11, provided with the puppets 12 and 13, between which the bored and turned trenail which is to be screw-threaded is secured. The carriage 11 thus has a horizontal forward movement imparted to it while the puppets 12 and 13 revolve, and thereby rotate the trenail to be screw-threaded.

The tool for cutting the threads in the turned trenail during its double forward and rotating movement consists of a block or mandrel 14, mounted on centers in the cap 5 and carrying three thin gouge-like steel cutters 15 of the concave shape shown in Figs. 4 and 5. These cutters are held on the block 14 by clamps 16, on which press the heads 17 of screws 18, screwed into the block 14. The block is fixed upon a spindle 19, carrying the driving-pulley 20, which is driven from a suitable motor. The working height of the tool-carrier is adjusted by means of a headed screw 21, located in a bracket 22, fixed to the frame 1 and on the end of which the cap 5 rests by its own weight.

As this machine effects the screw-threading of a trenail at each direction of travel forward as well as backward an automatic device is arranged upon the machine for releasing the screw-threaded trenail. This arrangement consists of a spring-rod 23, provided with an enlarged portion on which the puppet 12 can freely turn. This rod, which slides in a tube 24 fixed to the carriage 11, is provided with a hole in which engages a lever 25, hinged at 26 and connected to a rod 27, having a head 28 moving freely in a tube 29. This tube, moreover, which forms a portion of the frame, carries a projection 30, the function of which will be hereinafter described.

The machine is also provided with an inclined plane 31, fixed to the carriage 11, which at a certain moment raises the cap 5, through the medium of the rod 32, in order to stop the screw-thread at the point 33, Fig. 7, the tool then turning without reaching the shoulder 34 of the trenail.

To screw-thread trenails with this machine, the workman first moves back the carriage 11 so that the bracket 35 comes against the

nut 8, and he then places a trenail between the puppets 12 and 13. The workman then turns the crank-handle 10 from the left toward the right hand in order to cause the screw 9 to work through the nut 8, which causes the carriage 11, carrying the trenail, to advance at the same time that the trenail revolves in front of the screw-threading tool. When the inclined plane 31 comes under the rod 32, the cap 5 is lifted and the tool no longer cuts into the wood of the trenail. When the carriage 11 arrives near the end of its travel, the head 28 of the rod 27 strikes against the end 36 of the tube 29. The said rod being thus stopped causes the lever 25 to rock, which lever by pulling back the rod 23 disengages from the puppets the threaded trenail, which falls into a receptacle placed at the foot of the machine. The workman then places a second trenail between the puppets and turns the crank-handle 10 from right to left in order to effect the screw-threading. When the carriage arrives near the end of its travel, the lever 25 encounters the projection 30 and the rod 23 disengages the threaded trenail, which then falls.

Having thus described my invention, I claim—

1. In a machine for screw-threading trenails and the like, the combination with the means for rotating and moving longitudinally the piece to be cut, and the rotating cutters for cutting the thread, of automatic means for disengaging the screw-threaded piece at the end of the cutting operation, said means comprising a displaceable spring-puppet

which supports one end of the piece, a lever mechanism for withdrawing said puppet, and means for actuating said lever automatically at each end of the cutting movement. 40

2. In a machine for the purpose specified, the combination with the hinged cap, the rotating cutter mounted in said cap, and the traveling carriage which bears the piece to be screw-threaded, of an inclined plane on said carriage adapted to take under and elevate said cap, whereby the cutting is arrested at a predetermined point. 45

3. In a machine for the purpose specified, the combination of the following instrumentalities, namely: a frame, a carriage slidable in said frame, a screw 9 mounted rotatably on said frame and running in a nut thereon, the said nut, a puppet 13 carried by said screw, a spring-rod 23 mounted slidably on the carriage and provided with a puppet 12, a lever 25 fulcrumed on the carriage, one arm of said lever engaging said spring-rod, a headed rod 27 coupled to the other arm of said lever and slidable in a cylinder 29 on the frame, and the said cylinder, provided with a detent or stop 36 for the head of the rod 27, and with a detent 30 in the path of the upper arm of said lever, substantially as set forth. 50 55 60

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses. 65

ALBERT COLLET.

Witnesses:

JULES ARMENGAUD, Jeune,
EDWARD P. MACLEAN.