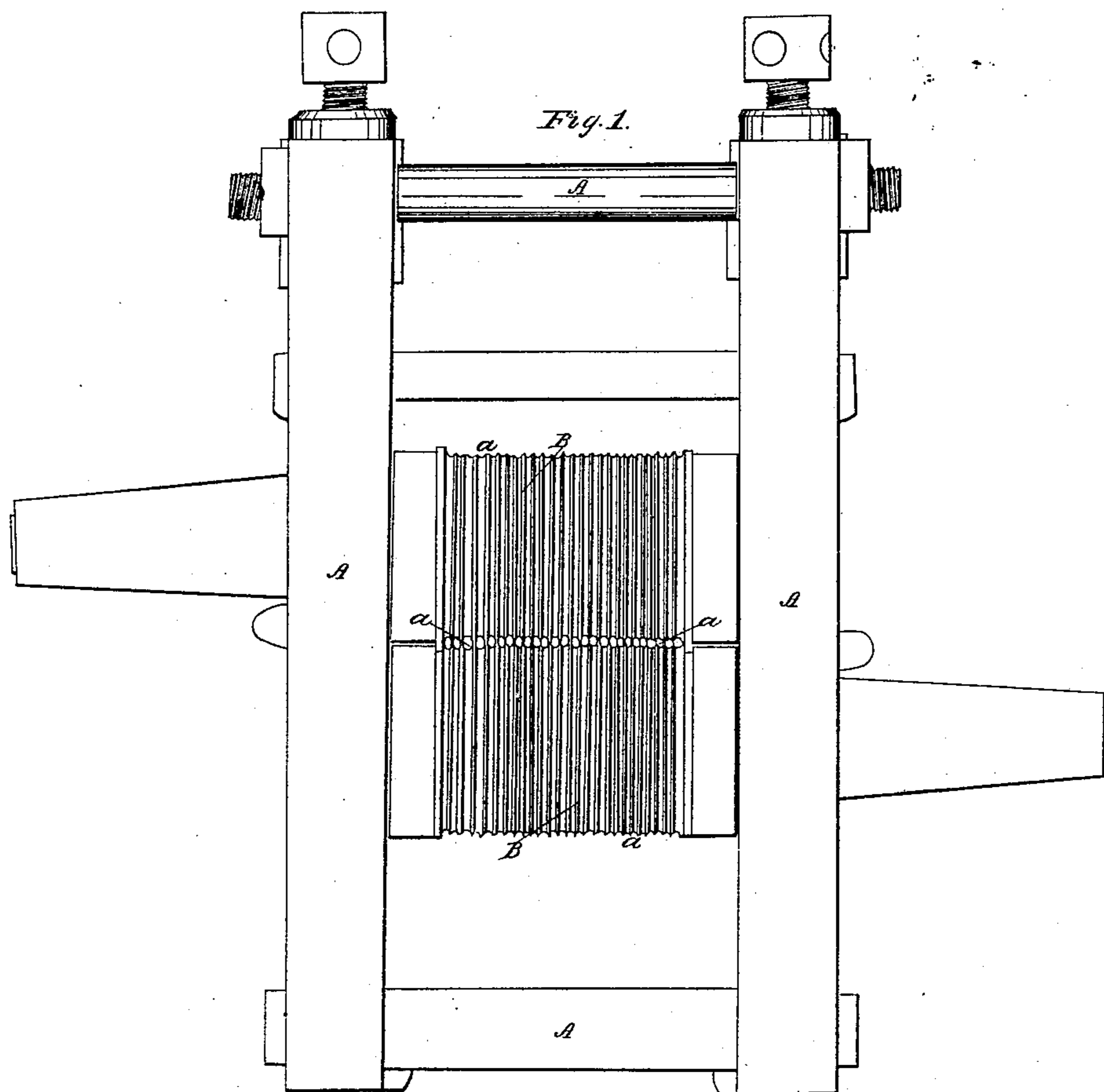


N. F. WINANS & T. HYATT.  
MANUFACTURING MATCH SPLINTS.

No. 1,867.

Patented Nov. 26, 1840.



# UNITED STATES PATENT OFFICE.

NORMAN T. WINANS AND THADDEUS HYATT, OF NEW YORK, N. Y.

MANUFACTURE OF SPLINTS OR STICKS FOR FRICTION AND OTHER MATCHES.

Specification of Letters Patent No. 1,867, dated November 26, 1840.

*To all whom it may concern:*

Be it known that we, NORMAN T. WINANS and THADDEUS HYATT, of the city of New York, in the State of New York, have invented or discovered a new and Improved Manufacture of Splints or Sticks for Friction or other Matches; and we do hereby declare that the following is a full and exact description thereof.

Our new manufacture of splints, or sticks, for matches, consists in the making them by pressure and condensation from wood first cut into thin sheets, in the manner of veneers; which sheets, or veneers, may be about an eighth of an inch in thickness. In proceeding to manufacture our splints, we divide these veneers into portions of the proper size for subjecting them to pressure by means of suitable instruments, which will at the same time condense the wood, and cut it into strips, or splints, preparatory to their being dipped into sulfur, or into any composition with which they are to be tipped.

The apparatus that we use for this purpose consists either of rollers, or of dies, constructed and operating in the same manner with rollers, or dies, which are well known to machinists, and are used for various purposes in the useful arts. When we use rollers, we mount them in the ordinary way of mounting flattening mill rollers, and upon the surfaces of these rollers we make grooves, flutes, or hollows, in such manner as the groove, flute, or hollow, upon one of the rollers shall, as they are made to revolve, be exactly opposite to, or coincide with, a corresponding groove, flute, or hollow, on the other roller.

Although we do not claim the invention of any particular instrument, apparatus, or machine, used by us for manufacturing our compressed, or condensed, match splints, we will, for the purpose of illustration, refer to the accompanying drawing, in order more distinctly to make known our process.

A, A, is a frame sustaining two rollers B, B; which rollers have flutes *a, a, a*, turned around them, in such manner as that the

divisions between them shall form sharp, or cutting, edges, and shall come so nearly into contact with each other as to separate, or nearly to separate, the pieces of wood which are passed between them, into distinct splints. The rollers would effect the same purpose were the flutes upon them made longitudinally, instead of around them, but the flutes would be more difficult to form, and the rollers would have to be geared together with great nicety.

Instead of using fluted rollers, we sometimes employ pairs of fluted dies, which we affix in a lever, screw, cam, drop, or other press, between which pairs of dies, we condense and separate the wood; the effect in either case being precisely the same. If it is preferred to make the splints square, the grooves on the rollers, or dies, must be made V shaped, which will equally have the effect of compressing, or condensing, the wood, and will produce the splints in the desired shape.

The matches made of wood thus compressed will burn for a greater length of time than those, of equal size, in which the pores of the wood are not closed by condensation, as they contain a larger quantity of combustible material in the same bulk.

Having thus described the nature of our invention, and shown the manner in which we carry the same into operation, what we claim therein, and desire to secure by Letters Patent, is—

The manufacturing of splints, or sticks, for matches, of wood condensed by mechanical pressure between rollers, or dies, as herein set forth.

NORMAN T. WINANS.  
THADDEUS HYATT.

Witnesses to the signature of N. T. Winans:

THEODORE MYATT,  
MOSES H. DAVIS.

Witnesses to the signature of Thaddeus Hyatt:

THOS. P. JONES,  
JOHN P. CORBY.